MASTERING THE ART AND CRAFT

baking and pastry

THIRD EDITION

the culinary institute of america

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THIRD EDITION

THE CULINARY INSTITUTE OF AMERICA

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PREFACE

The *Third Edition* of *Baking and Pastry: Mastering the Art and Craft* is an inspiration for new ideas in recipes and design that every baking student or professional of the culinary or baking and pastry arts will use to learn and develop basic and advanced baking and pastry techniques. It contains the tried and true recipes that are used in the classrooms by today's culinary students and instructors. A guide of basic techniques, the book contains written step by step methods that are reinforced with detailed photography; teaching lessons essential to anyone wanting or needing to learn and develop skills in the baking and pastry arts. New plated desserts and special occasion cakes convey the pulse of industry trends not only in presentation, but also through modern techniques and innovative flavor profiles.

ORGANIZATION

Baking and Pastry: Mastering the Art and Craft is the ideal reference for those craving to learn, those who need to learn, and those looking to reinforce existing knowledge about baking and pastry. It is intended to serve as a training tool for baking students and professionals alike. The book is the foundation for the successful understanding and execution of basic recipes and techniques utilized in almost every professional and educational setting. The basic techniques and recipes found in the book are the kernels of knowledge that can be drawn upon throughout your professional career, while the advanced techniques presented in the later chapters will serve as a source of inspiration and reference for seasoned professionals who are looking to create new, original recipes and presentations.

The chapters progress through four parts, each building on the information, techniques, and recipes of the previous.

- The first part of the book relays fundamental information about the profession, ingredients, and equipment and then moves to discuss the principles of understanding how baking formulas work; introducing the functions of baking ingredients and basic bakeshop math.
- The second and third parts open into chapters which apply the information and knowledge from the previous introducing foundational recipes, some of which can stand alone and others which serve as a component or base for a more complex item. These include basic and advanced yeast doughs, pastry dough and batters, quick breads and cakes, cookies, custards, creams, mousses, icings, glazes, sauces, and frozen desserts. With accompanying methods and techniques, these chapters provide the rudiments of the craft for all baking and pastry students and professionals.
- Capping it all off, the final part the book uses the set foundation of the previous chapters to create assembled and finished baking and pastry goods, further developing the necessary skills for a baker or pastry chef to hone their art and craft. The recipes presented in Parts Two and Three for items such as cakes, cookies, sauces, and more are utilized in inventive plated desserts, breakfast pastries, and plated desserts. Introducing techniques for assembly and décor, the final chapters display the gamut of baked goods in style and technique. Pies, Tarts, and Fruit Desserts covers a range of recipes from comfort food favorites like lemon meringue and pumpkin pie, to refined classics like strudel and clafouti, to updated favorites like the strawberry strip tart. Both classic and contemporary styles of Filled and Assembled Cakes and Tortes are presented in Chapter 16. Recipes in the Breakfast Pastries chapter encompass traditional American and European baked goods, from simply prepared muffins to elaborately braided danish. The Individual Pastries presented in Chapter 18 combine different flavor profiles, textures, types of components, and presentation styles to create desserts that are ideal for myriad settings, from a buffet to a restaurant to a café. The professional baker or pastry chef is often called upon to create savory items for special events or items that would be well suited for a café setting; the Savory Baking chapter provides recipes that would work well in either of these venues. The Plated Desserts in Chapter 20 cover a wide range

of presentation styles from classic to contemporary and serve as inspiration for students and pastry professionals alike. The Chocolates and Confections contained in Chapter 21 are easy to approach and don't require the special equipment that is typically used in specialty chocolate shops. A basic knowledge of baking and pastry can be used to make the ganache-based, aerated, and nut-based confections found here. The Décor chapter showcases the fundamental techniques that can be used to finish desserts with an elaborate flourish, using everything from pulled sugar to royal icing floodwork to chocolate stenciled and cut décor to gum paste and pastillage. The ability of a baker or pastry chef to provide both simple and elaborate specialty cakes is integral to nearly any work environment the professional will encounter. The cakes in Chapter 23 give the reader guidance for preparing these types of cakes. From rustic to refined, every technique is fully explained. Photography shows the beauty in both simple and complex styles of presentation and illustrates the how-to in easy-to-follow steps.

WHAT'S NEW

Numerous changes have been made to *Baking and Pastry: Mastering the Art and Craft* to enhance it as a comprehensive resource:

150 new recipes were added throughout the book to reflect current industry trends.

In **CHAPTERS 1 THROUGH 4**, there is new text concerning issues of sustainability and seasonality and volume food service in the bakeshop.

CHAPTERS 7 AND 8, on beginning and advanced yeast breads and rolls, were revised with updated recipes and new photography focusing on traditional European classics such as Fougasse, Vollkornbrot, and Pain Pugliese.

CHAPTERS 9 THROUGH 14 contain foundational recipes that were added to support the creation of the finished items found in Part Four. The applications for these recipes can also be expanded upon beyond the specific uses in the book.

CHAPTER 16 includes new photography for assembling entremets and a variety of new entremet recipes that span a wide array of flavors and textures.

CHAPTER 18 features an all-new section of recipes on doughnuts and updated recipes for classic and modern Danish preparations.

CHAPTER 19 was updated with recipes that reflect the practical application of savory items that would be prepared by the pastry professional and includes a new section on vol-au-vents.

CHAPTER 20 contains 60 percent new recipes, with cutting-edge flavor combinations, and new photography that incorporates current plating techniques.

CHAPTER 21 has been revamped and streamlined to include chocolates and confections recipes that are approachable and customizable for a variety of professional settings. There is a new section on hollow-shell chocolates, and the recipes are now focused on ganache-based, nut-based, crystalline and non-crystalline, and aerated confections.

CHAPTER 23 features new recipes for specialty cakes that can be executed in a variety of settings with ingredients and equipment that are commonly found in most bakeshops.

There are 295 new photos in this edition of the book, including striking galleries throughout the book, new produce and equipment identification pictures, new illustrations for knot rolls, new bread-shaping photos (Chapters 7 and 8), new pastry dough and batter photos (Chapter 9) new creaming and pound cake photos (Chapter 10), cookie-shaping photos (Chapter 11), mousses and soufflés (Chapter 12), frozen desserts and finished frozen desserts (Chapter 14), pie assembly (Chapter 15), entremet assembly (Chapter 16), plated desserts (Chapter 20), chocolate shaping (Chapter 21), extensive new décor photography including pulled-sugar work and gum paste flowers (Chapter 22), and new specialty cakes (Chapter 23).

RESOURCES

For those using this book in a classroom setting, the *Third Edition of Baking and Pastry: Mastering the Art and Craft* is accompanied by ancillary materials to aid students in their studies and instructors in their classroom preparation.

The cohesive Resources package works to further educate and challenge the reader through the seamlessly integrated *Instructor's Manual*, *Student Study Guide*, and PowerPoint Slides. The *Study Guide* (978-1-118-71282-5) includes key terms, study questions, short answers, crossword puzzles, and interactive activities. Answers to the questions are included in the *Instructor's Manual*.

An all-new online *Instructor's Manual* includes teaching suggestions that highlight key points from the text in lecture outlines and key terms as well as a Test Bank that includes true/false, multiple choice, fill-in-the-blank, and short answer essay questions. PowerPoint presentations for each chapter are also available; these are easily customizable to suit a variety of classroom settings and also reinforce the techniques and text throughout the book. These Instructor Resources can be found on the book's website at www.wiley.com/college/cia. Additionally, the Test Bank has been specifically formatted for *Respondus*, an easy-to-use software program for creating and managing exams, which can be printed to paper or published directly to Blackboard, WebCT, Desire2Learn, eCollege, ANGEL, and other eLearning systems. Instructors who adopt *Baking & Pastry* can download the Test Bank for free.

An Image Gallery of photos and illustrations from *Baking & Pastry* can be found on the book's website at www.wiley.com/college/cia. The gallery is a great resource to enhance course preparation and illustrate techniques and finished dishes in the classroom.

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PART ONE

THE PROFESSIONAL BAKER AND PASTRY CHEF

1

CAREER OPPORTUNITIES FOR BAKING AND PASTRY PROFESSIONALS

Baking originated thousands of years ago and it is integral to human history and still is the source of the most basic foodstuffs. Bread's importance can be seen in the way governments regulated its production, quality, weight, and price. Bakers established the first trade guilds in Rome in 150 B.C.E.

The pastry chef, as the position exists today, evolved through the brigade system. Instituted by Escoffier, it served to streamline work with workstation and specific responsibilities. Pastries were made by the pâtissier (pastry chef). Later, this position separated from the brigade and developed its own organization largely attributed to Marie-Antoine Carême (1784–1833), a Parisian chef and pastry chef whose books on the pastry arts are influential to this day.

CAREER OPPORTUNITIES FOR BAKING AND PASTRY PROFESSIONALS

RICHARD COPPEDGE, CMB

What was your first job in a kitchen (bakeshop)?

I was a hospital kitchen employee. I took food carts up to patient areas. This led to a part-time employee meal cook position.

What advice would you give to someone just starting their career in the food industry?

It is important to learn all there is to know about the ingredients and foods you use. Understand what it takes, and how the items are grown, made, and used.

How would you describe your style?

My style is firm, stern, respectful, and formal. When I perceive that a person carries respect for food and also respect for themself and others, they are easy to talk to on a professional level.

Why is a formal education in baking and pastry important in today's world?

Education is a great launching point, especially when a person is starting out later in his worklife. Regardless, it is beneficial for the beginner to learn correct technique.

Who was the biggest influence in your professional life?

My students, who are the reason for my career, and my development of a style that is unique. Each day, I make it my goal to help groom as many individuals as are in my class that day. And for myself, to be able to learn from my students. It may not always be bakeshop related, but it might be something that helps me to understand their way of thinking.

The most underrated ingredient is . . . water.

BAKERS AND PASTRY CHEFS can pursue many options. You might own your own company, or work for someone else. It can be a commissary setting, restaurant, or shop specializing in wedding cakes or handcrafted breads. To get a foundation you may work in a cross section of bakeries and kitchens, then specialize in a discipline.

Bakers often follow one of two paths: working in large commercial bakeries that do volume production, or in smaller shops that produce lower volume but higher-quality goods.

Wholesale bakeshops focus on large-scale production, selling finished or unbaked items and batters to supermarkets, cafés, gourmet shops, restaurants, caterers, cafeterias, and the like. Individually owned shops provide a range of services, from a full-service bakeshop to one that specializes in chocolates and confections or wedding cakes. Large hotels rely upon the skills of the pastry chef and baker, who are often responsible for breakfast pastries, elaborate pastry displays, wedding cakes, and the like, including supplying the many food outlets and banquet rooms.

The restaurant pastry chef needs a range of baking and pastry skills to create a variety of items—ice cream and cakes, chocolates to serve as mignardises and petits fours, even pizza dough. Private clubs and executive dining rooms, as well as schools, hospitals, and colleges, rely upon executive pastry chefs and master bakers to handle high-volume, high-quality fare.

Food producers operate research and development kitchens to test products and formulas and fine-tune them. These large businesses also offer benefits and career advancement within the corporation.

Caterers often hire pastry chefs and bakers to meet the desires of a special client for a particular event, whether a trade convention, wedding, birthday party, cocktail reception, or gallery opening. Grocery stores hire baking and pastry professionals to develop carryout desserts and signature breads, as well as to assist with research, focus groups, packaging, pricing, and marketing strategies. Consultants in the baking and pastry arts work with clients to develop menus, staffing strategies, marketing plans, packaging, and the like.

CHEF PETER GREWELING, CMB

What was your first job in a kitchen (bakeshop)?

My first baking job was in the basement of the student union at Cornell University. There was one full-time baker—George—and me, and numerous part-time student workers. With just this crew, we produced the majority of the baked goods for the university dining with an enrollment of 16,000 students. It was hard work, and a lot of production, but it was one of the best times in my life.

George was a true free spirit. We did copious production, all from scratch, and the quality was quite good for university dining. There was always Frank Zappa or The Grateful Dead playing as we worked, so the environment was fun and creative; it was a great balance. For me, it was an ideal introduction to professional production baking.

How would you describe your style?

Irascible, acerbic, and cantankerous, with an emphasis on the technical side of confectionery. I want my students to understand how the materials work so that they can apply that knowledge and succeed wherever they go. I require my students to actively participate in class, and in their education. When students are putting in the effort that they should, learning the things that they will need, and producing excellent products, there is plenty of opportunity for humor and fun.

Craftsman, leader, manager, artisan, engineer, architect: Which one are you?

I am an educator, technician, and artisan, in that order. I came here as a pastry chef and learned to be a teacher. Over the years I have become passionate about education. The most important products that leave my class are not the chocolates, but rather the students. I want my students to leave my class having learned as much as they possibly can about the technology of chocolate and confections, as well as proper techniques and good working habits. The technician in me, who seeks to understand how things work, is what allows the artisan in me to be creative, and to bring ideas to fruition. Without that understanding of what I consider to be fundamentals, creative ideas are little more than desires or wishes.

What advice would you give to someone just starting their career in the food industry?

Relentlessly educate yourself in every aspect of the food business you can, whether it is closely related to what you do or not. Do not pigeonhole yourself into one small area; learn as much as you can from everyone you can, always. The more you know, understand, and can do, the more valuable you are in business, and the more interesting your life and career will be.

Working as a salesperson is also an important function. Such professionals understand the needs of today's bakeries and pastry shops, and can promote new ways to use familiar products and equipment. Teachers in the baking and pastry arts are vital to degree- and certificate-granting programs. Baking and pastry professionals who teach bring a special awareness of how things work in the real world. Food writers and critics have come with education and experience in the baking and pastry arts. This allows them to write truly informed reviews, articles, columns, books, and content for multimedia and online presentations.

FORMAL EDUCATION

ALL EMPLOYERS LOOK FOR EXPERIENCE AND EDUCATION—even entry-level positions can require a degree. The increasing emphasis on formal education has brought about more programs dedicated exclusively to baking and pastry. Employers rely on the craft taught by these schools to establish a common ground of ability.

Both employers and schools recognize that formal education on its own is not enough to ensure excellence. Baking and pastry are practical arts. To master them, you need to work and make job choices that invest in your future.

CONTINUING EDUCATION

JUST AS FORMAL EDUCATION has become important in launching a career, certification and continuing education keep advancing you as a baking arts professional. Because the industry is constantly evolving, continuing your education and attending workshops, seminars, and trade shows hone skills while keeping you up on new methods, ingredients, techniques, products, and business skills.

Throughout your career, you should evaluate your achievements and goals, and take the appropriate steps to keep on top of the latest information geared to both culinary professionals and the world at large. Enter contests and competitions. Educate yourself, and learn to use the important tools of your business from budgets to inventory control systems.

CERTIFICATION

THE RETAIL BAKERS OF AMERICA (RBA) and the American Culinary Federation (ACF) have established standards for certifying bakers and pastry chefs. The RBA's certification levels begin with Certified Journey Baker (CJB). The RBA's next level includes three designations: Certified Baker (CB), Certified Decorator (CD), and Certified Bread Baker (CBB). Each level requires that your work history meet certain criteria for you to be eligible to take the exams, which have a written and practical component. Certified Master Baker (CMB) is the highest certification given by the RBA.

The ACF certifies pastry culinarians, giving Certified Pastry Culinarian (CPC) entry-level certification based on work experience as well as written and practical tests. Next is Certified Working Pastry Chef (CWPC); individuals working at this level are typically responsible for a shift or a section within a food-service operation. The next level is Executive Pastry Chef (CEPC), which is for department heads who report to a corporate executive or management team. Researchers and others in specialized areas also take the CEPC test. The ACF grants the Certified Master Pastry Chef (CMPC) certification, an eight-day exam that combines a written and practical test of classical and contemporary applications. Finally, the RBA and the ACF have specific minimum criteria that must be met before you can apply for certification.

NETWORKING

DEVELOPING A PROFESSIONAL NETWORK can be formal or informal. You begin simply by introducing yourself to others in your field. Then it's having business cards at trade shows and other professional encounters. Join culinary arts organizations. Many maintain web sites—and many culinary artists maintain blogs—that enable them to communicate with other professionals, get ideas, express ideas, and make new contacts. When you first make a good contact, follow up with an e-mail, phone call, or a note. Social media presents a unique opportunity to expand your network through a variety of avenues that are visited by both professionals and nonprofessionals. The communication that you develop with your peers will keep your own work fresh and contemporary, and an established network will also make it much easier for you to find your next job—or your next employee.

CHEF GEORGE HIGGINS, CMB

What was your first job in a kitchen (bakeshop)?

I had never baked anything, except for sourdough bread. I met a baker in Los Angeles who had started one of the original organic natural foods bakeries. I asked him if he could teach me to bake. He told me if I met him at midnight at the bakery, I could help him and he would teach me. He could not afford to pay me, but I worked the midnight shift with him for a year, and what he taught me was priceless and has served me well to this day.

What advice would you give to someone just starting their career in the food industry?

Keep an open heart and open mind. Be prepared to work unusually demanding schedules. Find situations where you can both practice and perfect your craft, but also keep learning and growing. Don't be afraid to volunteer your time and energy, be humble and helpful; you may find that accomplished professionals will recognize your value and they will be more willing to share their hard-earned trade secrets with you.

How has your style evolved over the course of your career? How have your experiences contributed to this evolution?

I adhere to mastering the basics, whether it be formulas or techniques. Early on I was more the free spirit, inspired by some of the original California hippie natural food bakers. Later I realized that discipline and mastery were the keys to achieving the level of excellence I desired. Mastering the basics set me free.

Why is a formal education in baking and pastry important in today's world?

It is critical if you hope to have a lifetime of success. A good education will prepare you for any eventuality; it will set the standard required to excel in your craft, and the breadth of awareness to aspire to any position that may present itself on your career path.

The most underrated ingredient is . . . devotion to excellence in every aspect of your chosen craft.

The biggest misconception of our industry is . . . that baking and pastry are not hard work.

My secret for success is . . . determination.

My favorite dessert is . . . blueberry pie.

If I weren't a pastry chef, I would be . . . a rock and roll drummer.

I could eat . . . sandwiches on good bread **. . . every day**.

THE BUSINESS OF BAKING AND PASTRY

AS YOUR CAREER EVOLVES, you will move into those positions where your skills as an executive, administrator, and manager are in demand. This does not mean that your ability to make breads and pastries is less important. Plating, presentation, and pricing are daily concerns for any executive pastry chef or baker—and you may still be creating new menu items and products while keeping costs under control and improving profits. Managing a bakery or pastry shop requires the ability to handle four areas effectively: physical assets, information, people (human resources), and time. The greater your management skills in these areas, the greater your potential for success. Many management systems today emphasize the use of "excellence" as a yardstick. Every area of your operation can be used to improve the quality of service you provide to your customers.

CHEF NOBLE MASI, CMB, CEPC, AAC, HOF

What was your first job in a kitchen (bakeshop)?

My first job was at Buzzeo's Bake Shop located in New York City. It was opened in 1947 by my brother, Tony, and his wife, Marie. I was nine years old and started by making deliveries after school, cleaning sheet pans, and sweeping floors. My responsibilities grew when I attended Food Trades High School; I then prepared fruit fillings, cooked custards and creams, scaled formulas for the bakers, and decorated cakes for family and friends.

How would you describe your style?

My style is more scientific/craftsman. I enjoy the study of baking principles, ingredient technology, and formula development. I also have an interest in the history of baking and the evolution of equipment and ingredients.

Craftsman, leader, manager, artisan, engineer, architect: Which one are you?

Leader. To be a leader today you need a formal education, successful industry work experience, the ability to inspire confidence in your employees, and a vision and plan to achieve success by listening and building a team. Build a network of professionals in the industry and stay abreast of the latest innovations and technologies.

What advice would you give to someone just starting their career in the food industry?

Cook and bake for family and friends at every opportunity—holidays, birthdays, special occasions. Clean your equipment, pots, and pans. Visit bakeries, restaurants, and supermarkets. Expand your knowledge of the ingredients, pastries, breads, and cakes and continue these explorations when the opportunity for travel comes your way. Seek employment in food service as early as possible to build the passion and love needed to succeed in this industry and join trade organizations to build, enhance, and pass on the knowledge.

The most underrated ingredients are . . . orange blossom water, cinnamon oil, cardamom, and rose water.

The biggest misconception of our industry is . . . buttercream made without butter. Many customers believe that buttercream is made with butter; however, American buttercream is made with 90% shortening. Many food markets use a product called BUTTRCREAM, spelled without the E in butter, but pronounced "buttercream," or spell it BUTTER KREME. These products contain no butter.

My secret for success is . . . positive attitude, knowledge, passion and education.

My favorite dessert is . . . traditional holiday baked goods that are made only on the holidays.

I could eat . . . bread, cheese, and Italian cured meats, and drink wine . . . **every day**.

MANAGING PHYSICAL ASSETS

Physical assets are the equipment and supplies needed to do business: everything from industrial-size mixers to flour to cash registers—in short, anything that affects your ability to do business well. These require control systems that will keep your organization operating at maximum efficiency.

For any baking and pastry operation, the material costs—whatever you use to create, present, sell, and serve your goods—is the biggest expense. For this reason, being a baking and pastry professional entails being your own purchasing agent—or knowing how to work with one—to maintain inventories to produce and market your products and services.

MANAGING INFORMATION

Given the sheer volume of information generated each day, the ability to tap into the information resources you need has never been more important. You must not only keep yourself informed

CHEF FRANCISCO MIGOYA, CMB, CHE

How would you describe your style?

Minimalist, precise, technique focused, executed in a consistent fashion.

Craftsman, leader, manager, artisan, engineer, architect: Which one are you? What are the attributes needed to be this?

I think pastry chefs are a little bit of each of these trades. But if I had to pick one, I would say artisan. Pastry has many precision-focused attributes, but it has to be counterbalanced by a visual and spiritual sensibility associated with artisanship, which is part of what makes us human. If what we do is detached from our humanity, there is a coldness to the food we serve.

What advice would you give to someone just starting their career in the food industry?

The short answer is that there are no shortcuts or formulas to become successful, whatever your definition of successful is. The cliché answer is hard work, but hard work in and of itself is nothing if you are not paying attention and having a deep desire to be better every day. The sooner you embrace repetition and get used to it and effectively learn to love doing the same thing day in and day out, with a daily focus on getting better, faster, and more productive each day, the better off you will be. This is the only way to get very good at anything.

How has your style evolved over the course of your career?

I believe that I have embraced simplicity now more than ever. Less clutter and bells and whistles. I found that it was a burden to have to constantly add components to desserts for the sake of color or visual balance. It is truly complicated to strip things down to their bare essentials and maintain balance among flavor, texture, and aesthetic.

Why is a formal education in baking and pastry important in today's world?

I believe it is important to learn a solid foundation. This will allow you to understand what you do better. It will teach you how to do things the right way instead of through trial and error. I went to culinary school to become a savory chef. In my initial years in pastry, working through the ranks, I often wished I had had the knowledge that a pastry education would have provided. It would have made my life a lot easier.

The most underrated ingredient is . . . salt.

My secret for success is . . . very simple: work hard, work smart, be curious, and, above all, be humble and loyal.

My favorite dessert is . . . a coffee éclair.

If I weren't a pastry chef, I would be . . . a graphic designer or an architect.

I could eat . . . pain au chocolat . . . **every day.**

of the latest trends, but also develop the ability to look beyond what is current to predict future trends. This will help to keep your business thriving. Restaurants, menus, dining room design, and more change dramatically with societal trends, on-the-go lifestyles, and the interest in world cuisines. Current tastes affect what people eat and where and how they want to eat it. The Internet is a powerful influence as well by allowing your customers to interact with you in a variety of ways, from making reservations to posting comments on social networking sites.

MANAGING HUMAN RESOURCES

Every shop relies on the work and dedication of people, whether they are the executive pastry chef, bakers, or wait staff, to name a few. No matter how large or small your staff may be, a team effort is one of the major factors in determining whether you succeed. One of the hallmarks of the true professional is being a team member—and this team can simply be you, your clients, and suppliers. Being part of a team requires as much practice and concentration as any baking or pastry technique. The best teams are made of talented individuals who bring not only technical skills to the mix, but also a passion for excellence. You can immediately recognize a strong team approach in a successful bakeshop or pastry kitchen. Everyone knows what work must be done beyond just their job description.

The management of human resources entails legal responsibilities. Everyone has the right to work in an environment that is free from physical hazards, and with properly maintained equipment. Liability insurance must be kept up to date and adequate. Taxes on the earnings have to be paid to federal, state, and local agencies. Employment packages have to be managed, including life insurance, medical insurance, assistance with dependent care, and even adult literacy training and substance abuse programs. In an increasingly tight labor market, benefits can make a difference in the caliber of employees you work with or manage.

MANAGING TIME

The days are not long enough. Learning new skills so that you can make the best possible use of time should be an ongoing part of your career. If you look at your operation carefully, you will discover how time is wasted. In most, the top five time wasters are lack of clear priorities for tasks, poor staff training, poor communication, poor organization, and inadequate or nonexistent tools for accomplishing tasks. Invest time in these strategies:

CHEF DIETER SCHORNER, CMB, CHE

What was your first job in a kitchen (bakeshop)?

I was very young—standing on my own two feet and helping to provide for my family. I apprenticed at a pastry shop in Germany with an old, mean chef who gave me a great deal of responsibility. I learned to be very independent.

What advice would you give to someone just starting their career in the food industry?

I always say that the most important thing is to love what you are doing. If you love what you do, you will always want to be better. I have worked in many restaurants, but I never worked for the money. I worked in different places because I could learn different things, and even now, I still learn and try to be better.

If someone asks for something, think of how you can give them something that is even better!

Who was the biggest influence in your professional life?

I have had many mentors. Silvino Trompetto, the chef at the Savoy Hotel in London, taught me to be confident. I learned from him that the moment you feel fear, you slow down. Sirio Maccioni, the owner of Le Cirque, taught me to be meticulous, but never too rigid. He believed in the importance of embracing hospitality in order to provide the best experience for our customers.

Even having worked for wonderful people in amazing establishments, I am still lucky to be so greatly influenced every day by my students. One of the best things I can think of is for them to be better than me, their teacher.

Name the characteristics that make an exceptional pastry chef/baker.

A good chef must be humble and respect ideas. Never just follow and let others make decisions for you; it is important to remember that, as a chef, you are part of a large team, and every person's job is essential to providing good service.

What does today's pastry chef need to understand / be responsible for today that he may not have years ago?

We need to be more in touch with things as they exist in nature. Look to nature first, and be respectful of it.

Review daily operations. Until you are clear about what needs to be done and in what order, you cannot begin the process of saving time. Consider the way you, your coworkers, and your staff spend the day. Does everyone have a basic understanding of which tasks are most important? Do they know when to begin a particular task in order to finish it on time? It can be an eye-opening experience to take a hard look at where everyone's workday goes.

Train others. If you expect someone to do a job properly, take enough time to explain the task carefully. Walk yourself and your staff through the jobs that must be done, and be sure that everyone understands how to do the work, where to find needed items, how far individual responsibility extends, and what to do in case a question—or emergency—comes up. Give your staff the yardsticks they need to evaluate their time and jobs, otherwise you may find yourself squandering precious hours picking up the slack.

Learn to communicate clearly. Whether you are training a new employee, introducing a new menu item, or ordering a piece of equipment, clear communication is essential. Be specific and be brief without leaving out necessary information.

Create an orderly work environment. If you have to dig through five shelves to find the lid to a storage container for buttercream, you are not using your time wisely. Organize work areas carefully so that tools, ingredients, and equipment are readily available. Schedule—and write out—like activities so they are performed at the same time and in the same way by different people.

Purchase, replace, and maintain all tools as necessary. A well-equipped kitchen has all the tools necessary to prepare every item on the menu. If you are missing something as basic as a sieve, your crème anglaise will not be perfectly smooth. Learn to operate equipment safely and teach others to do the same.

THE PROFESSION

A PROFESSIONAL MAKES A LIVING from the practice of a craft. Rather than viewing work as simply a means to an end, true professionals have a passion for their craft and a drive for excellence. Some professionals may tell you that they baked for their families or worked in a bakeshop when they were young. Others come to the baking and pastry field after establishing themselves in other areas in the food-service industry. Still others make a switch to the baking and pastry profession as a second or third career.

All professionals must learn the foundations of the profession: handling ingredients and equipment, and standard or basic formulas. At the next level, they apply those foundations, adapting and modifying formulas or finding ways to improve quality and efficiency in their own work. At the highest level, they draw on all they know and use their knowledge, skills, and creativity to produce something—as specific as a new pastry or as intangible as a successful career—that was not there before.

Every member of a profession is responsible for its image. Those who have made the greatest impression know that the cardinal virtues of the baking and pastry profession are an open and inquiring mind, an appreciation of and dedication to quality, and a sense of responsibility, cultivated throughout a career.

Commitment to service. The food-service industry is predicated on service, and professionals must never lose sight of that. Good service includes (but is not limited to) providing quality items that are properly and safely prepared, appropriately flavored, and attractively presented—in short, what makes the customer happy.

Responsibility. A professional's responsibility is fourfold: to him- or herself, to coworkers, to the business, and to the customer. Waste, disregard for others, and misuse of any commodity are unacceptable. Abusive language and profanity, harassment, and insensitivity to gender, sexuality, and race do not have a place in the professional bakeshop and pastry kitchen. Self-esteem and attitude toward the establishment need to be positive.

Good judgment. Although not easy to learn, good judgment is a prerequisite for a professional. Good judgment is never completely mastered; rather, it is a goal toward which one can continually strive.

2

INGREDIENT IDENTIFICATION

Choosing ingredients with care based upon quality, seasonality, and other considerations, including cost, is a prerequisite for high-quality baked goods. Each ingredient has its own set of characteristics, and it is the pastry chef's or baker's job to know how to handle all ingredients properly from the time they are received throughout each phase of storage, handling, and preparation.

WINCO 12oz

FLOURS, GRAINS, AND MEALS

THIS BROAD CATEGORY ENCOMPASSES both whole grains such as rice and barley and milled or otherwise refined products such as cornmeal and pastry flour. The fruits and seeds of cereal grasses and grains are versatile, universal foods, part of every cuisine and culture. For the most part, they are inexpensive and widely available, providing a valuable and concentrated source of nutrients and fiber.

Whole grains are grains that have not been milled. They usually have a shorter shelf life than milled grains.

Milled grains are polished to remove the germ, bran, and hull. They may have a longer shelf life than whole grains, but some of their nutritive value is lost during processing.

Milled grains that are broken into coarse particles may be referred to as *cracked*. If the milling process continues, *meals* and *cereals* (cornmeal, farina, rye meal) are the result. With further processing, the grain may be ground into a fine powder, known as *flour*, whether wheat, rice, or another type.

Various methods are used for milling: crushing the grains between metal rollers, grinding them between stones, or cutting them with steel blades. Stone-ground grains are preferable in some cases, because they are subjected to less heat during milling than with other methods and so retain more of their nutritive value.

BY ROW, TOP TO BOTTOM AND LEFT TO RIGHT: *Steel-cut oats, quick-cooking oats, oat flour, all-purpose flour, whole wheat flour, cake flour, pastry flour, bread flour, corn flour, semolina, millet flour, spelt flour, rye flour, long-grain rice, carnaroli, kasha, bulgur*

WHEAT

Each flour has its own characteristics, but wheat flour is the most common type used in the bakeshop. It is the only flour that contains enough gluten-forming proteins to provide the structure essential to baked goods. (For more about gluten in flour and gluten development, see "Proteins in Flour" in Chapter 4, page 62.) Flours made from other grains such as rye, rice, corn, millet, barley, oats, and spelt add distinctive flavors and textures to baked goods.

THE WHEAT KERNEL

Before the baker can understand the different varieties of wheat flour, he or she must understand what makes up wheat. The wheat kernel is made up of the following components:

Bran constitutes 14.5 percent of total kernel weight. The bran is the dark outer coating of the wheat kernel and contains large amounts of insoluble dietary fiber.

Endosperm comprises 83 percent of total kernel weight. The endosperm is the internal portion of the wheat kernel and contains the largest amount of protein and starch. White flour is produced from the endosperm.

Germ is 2.5 percent of total kernel weight. The germ is the embryo of the wheat kernel and contains fats, vitamins, minerals, and some protein.

Wheat is classified by season and color, as follows: *hard red winter wheat*, *hard white winter wheat*, *hard red spring wheat*, *soft red winter wheat*, and *soft white winter wheat*. (*Durum wheat* is a particular type of hard wheat.) Winter wheat is planted in the winter and harvested the following summer; spring wheat is planted in the spring and harvested that summer. Generally, spring wheat produces the hardest flours and winter wheat, the softest.

MILLING

Milling is the process that separates the wheat kernel into its three parts: bran, germ, and endosperm. Once the bran and germ have been removed, the endosperm is sifted to reduce the particle size to the correct quantity for flour.

EXTRACTION RATE

The extraction rate is the percentage of flour obtained after a grain has been milled. The extraction rate will vary with flour refinement. For example, flour with an 80 percent extraction rate indicates that 80 lb/36.29 kg of flour was obtained from 100 lb/45.36 kg of grain. Whole wheat flour, which has nothing removed, has a 100 percent extraction rate.

ASH

The ash content is a milling standard that determines the mineral (inorganic) material remaining in the flour after milling. Ash content is determined by burning a measured amount of milled flour and weighing the mineral material that remains after incineration. Ash content is related to flour color and type. This information can be found for any flour by checking individual specifications.

FLOUR TREATMENTS

Aging and bleaching. Newly milled flour is not ready for the bakeshop. Bakers refer to freshly milled flour as *green flour*. Due to the immature proteins found in the flour, dough made using green flour tends to absorb more water and is not elastic. In addition to having weak proteins, freshly milled flour is yellow in color. When flour is allowed to age naturally for two to three months, oxygen in the air will whiten the flour and develop the proteins.

Chemicals are sometimes used to synthetically replicate the aging and whitening process. Benzoyl peroxide and chlorine dioxide are two of the products used to chemically age and bleach flour. Flour that has been chemically aged and bleached will bear a "bleached flour" label.

Oxidizing. Potassium bromate, an inorganic compound, is an oxidizing agent added to flour to improve bread volume. When potassium bromate is present in flour, product volume increases by 10 to 15 percent.

Enrichment. Enriched flour has nutrients replaced that were lost during milling. Nutrients added include thiamine, niacin, riboflavin, iron, and calcium. Flour that has been enriched will bear an "enriched flour" label. Enrichment has no effect on baking performance.

TYPES OF FLOUR

All-purpose flour is a blend of hard and soft wheat flours milled from the endosperm of the wheat kernel; the specific blend varies from region to region. Southern all-purpose flour generally has more soft wheat than all-purpose flours in other parts of the United States. The protein content in all-purpose flour can range from 8 to 12 percent.

Bread flour, also known as *patent flour*, is a hard wheat flour made from the endosperm, and is used for breads and soft rolls. Its protein content ranges from 11 to 13 percent.

Cake flour is a soft wheat flour with a protein content ranging from 6 to 9 percent. It is used for cakes and cookies.

Clear flour, a hard wheat flour made from the endosperm, has a darker color than bread or high-gluten flour and is typically used in rye breads. The protein content of clear flour ranges from 13 to 15 percent.

Durum flour, milled from the endosperm of the durum wheat kernel, is a hard wheat flour used in bread making. Its protein content ranges from 12 to 14 percent.

High-gluten flour is milled from the entire endosperm; it is used for bagels and hard rolls. Its protein content is typically 13 to 14 percent.

Pastry flour has a protein content ranging from 8 to 10 percent. It is used for pie crust dough, muffins, and some biscuits, as well as pastries.

Semolina is a more coarsely ground durum wheat flour, used most typically in pasta making.

Whole wheat flour is a hard wheat flour milled from the entire wheat kernel, including the bran and germ; because the germ is high in lipids (fats), whole wheat flour can quickly become rancid. Its protein content ranges from 14 to 16 percent.

OTHER WHEAT PRODUCTS

Cracked wheat is coarsely cracked or cut wheat kernels, and includes the bran and germ. It lends texture and flavor to breads.

Vital wheat gluten is produced from the insoluble gluten protein extracted from flour during the milling process. The protein is dried and ground into a powder. It is used to fortify dough.

RYE

Rye flour behaves quite differently from wheat flour in baking, although rye kernels are milled in a manner similar to that used for wheat kernels. White rye flour is the mildest-flavored and lightest-colored rye flour, with a protein content of 8 to 10 percent. Medium rye flour has a slightly higher protein content, 9 to 11 percent, and is somewhat darker. Dark rye flour, which is milled from the outer portion of the endosperm, has a protein content of 14 to 17 percent. *Pumpernickel flour* (or *rye meal*) is a coarse grind made from the entire rye kernel, with an intense flavor and a dark color.

OTHER GRAINS AND CEREALS

Oats are cleaned, toasted, and hulled before use. Cleaned whole oats are referred to as *oat groats*.

Oat flour is made from oat groats ground into a fine powder; it contains no gluten.

Steel-cut oats (also called *Scotch*, *Scottish*, or *Irish oats*) are milled by cracking oat groats into smaller pieces.

Rolled oats, sometimes called *old-fashioned oats*, are made by steaming and flattening oat groats.

Instant oats are cracked oat groats that are precooked, dried, and rolled.

Buckwheat is not a type of wheat, but a cereal grain that has a distinctive strong, nutty whole-grain flavor and a relatively high fat content. Buckwheat may be roasted or unroasted. Roasted buckwheat groats, sold as kasha, have an intense flavor. Unroasted groats have a slightly milder flavor. Both are also milled into meal or flour.

Spelt is a cereal grain that contains less gluten and more protein than wheat. It is used in a variety of baked goods. It is available for use as a whole grain or a white or whole-grain flour.

Millet is a gluten-free seed with a mild flavor. It is available whole, cracked, or ground into flour.

Cornmeal is made by grinding dried corn kernels. Its color is determined by the color of the corn kernels used. Cornmeal is available in varying consistencies, from finely to coarsely ground.

RICE

During processing, rice is polished to remove some or all of the bran. White rice has had all the bran removed, while brown rice is only partially polished, leaving behind some of the bran. Rice is categorized generally by the length of the grain: short, medium, or long.

Rice flour is made by grinding white, brown, or sweet rice. It has a mild flavor and is commonly used to make gluten-free baked goods.

SUGARS, SYRUPS, AND OTHER SWEETENERS

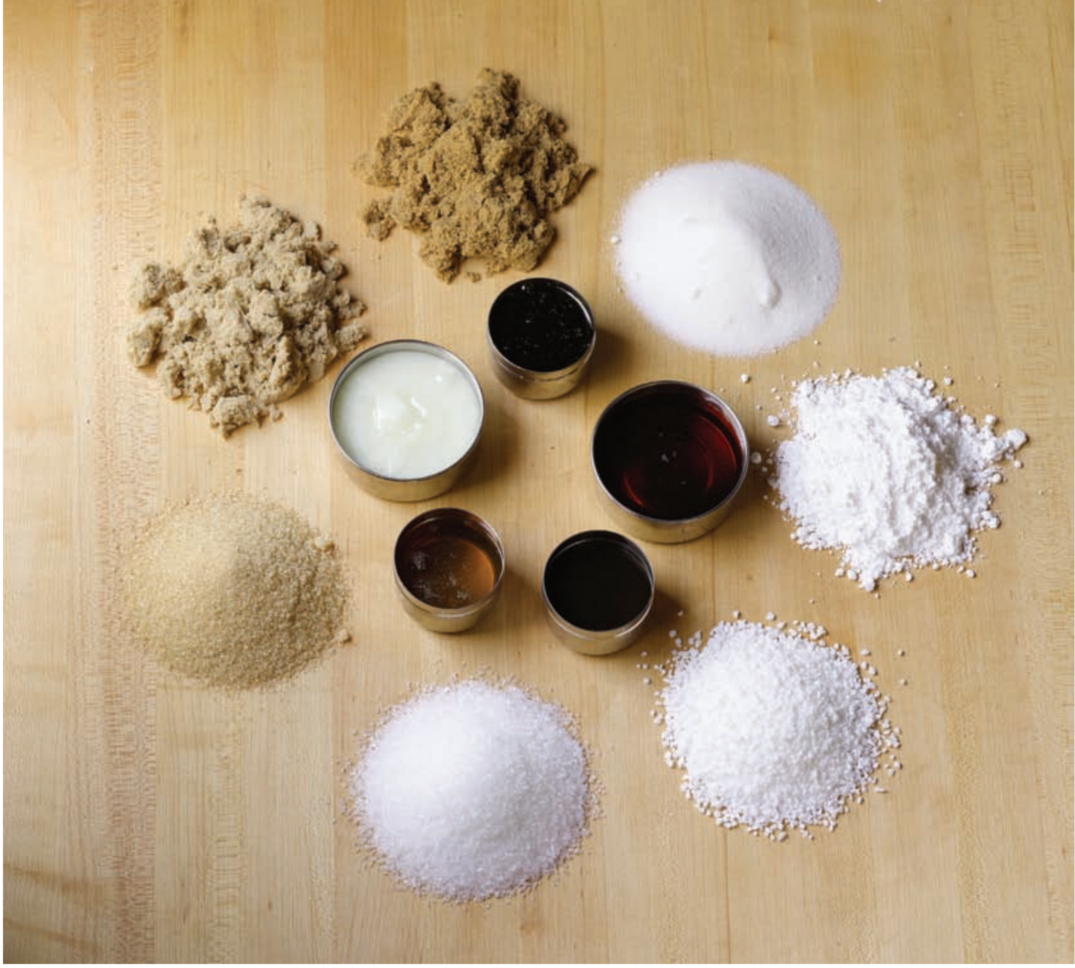
Granulated sugar is pure refined sucrose derived from either sugarcane or sugar beets. Granulated sugar has small, evenly sized crystals, and it is the most commonly used sugar in the bakeshop.

Superfine sugar has very small crystals and dissolves quickly. It is sometimes used in cake batters and meringues.

Sanding sugar has large crystals and is used primarily to decorate baked goods.

Pearl or **decorating sugar** has large pearl-shaped crystals and is also used as a decoration.

Brown sugar is granulated sugar with added molasses. Light brown sugar has a mild molasses flavor;



CLOCKWISE FROM TOP: *Dark brown sugar, granulated sugar, confectioners' sugar, pearl sugar, sanding sugar, turbinado sugar, light brown sugar, and center (clockwise from top): Dark corn syrup, maple syrup, molasses, honey, invert sugar*

dark brown sugar, which contains more molasses, has a more pronounced flavor. Store brown sugar in an airtight container to prevent loss of moisture.

Turbinado sugar is a coarse-grained partially refined sugar with a light brown color and a very mild molasses taste.

Confectioners' sugar, also called *powdered sugar* or *icing sugar*, is granulated sugar ground to a powder, with cornstarch added (up to 3 percent by weight) to keep it from caking. Confectioners' sugar is available in different grades of fineness (the number in the name reflects the mesh size of the screen used to sift the powdered sugar); 10X sugar is finer than 6X sugar.

Isomalt is a white crystalline "sugar-free" sweetener made from sucrose, used in diabetic baking. Because it does not break down when heated and absorbs very little water, some pastry chefs like to use isomalt for pulled sugar work.

Corn syrup is produced from cornstarch. It contains 15 to 20 percent dextrose (glucose), other sugars, water, and often flavorings. Light corn syrup has been clarified to give it its light color; dark corn syrup includes refiner's syrup and caramel color and flavor, giving it a darker color and a molasses flavor. Corn syrup resists crystallization, making it suitable for some confectionery work.

Glucose syrup is 42 DE corn syrup (see "Benefits of Glucose Syrup" in Chapter 4, page 68) used in icings, confections, and pulled sugar work.

Molasses is a thick, dark brown liquid by-product of sugar refining; it contains sucrose and invert sugars. Molasses has a rich flavor but it is less sweet than sugar. Molasses is available as light, dark, or blackstrap. These are rendered, respectively, from the first, second, and third boiling of the sugar syrup in the refining process, and range from light in color and flavor (light molasses) to very dark and intensely flavored (blackstrap molasses). Molasses may also be labeled "sulfured" or "unsulfured," depending on whether or not sulfur was used during processing. Sulfured molasses has a stronger flavor than lighter, more delicate unsulfured molasses.

Malt syrup, made from sprouted barley and corn, is used in some yeast breads. Diastatic malt syrup contains enzymes that break down the flour's starch into sugars. Nondiastatic malt syrup, which contains no diastase enzymes, is used to flavor doughs and enhance their color.

Golden syrup (or *light treacle syrup*) is processed from sugarcane juice. It can be used in place of corn syrup in confections and baked goods.

Honey, a naturally inverted sugar (see "Invert Sugar" in Chapter 4, page 68), is a sweet syrup produced by bees from flower nectar. The flowers, not the bees, determine honey's flavor and color. Honey can range in color and flavor from pale yellow and mild to dark amber and robust, depending on the source of the nectar.

Maple syrup is a liquefied sugar made from the concentrated sap of the sugar maple tree. Maple syrup is available in several different grades, ranging from Grade AA, which is thin and mild in flavor, to Grade C, which is thick and strongly flavored.

Inverted syrup is derived from sucrose that has been broken down into equal parts of glucose and fructose. Inverted sugar is manufactured by adding an acid, or invertase, to sucrose.

THICKENERS

A THICKENER IS ANY INGREDIENT that is capable of gelling, stabilizing, or thickening. The list of thickeners used in the bakeshop includes gelatin, pectin, plant gums such as agar-agar, and starches. (For an explanation of how starches, gelatin, pectin, and gums thicken liquids, see "Thickeners" in Chapter 4, page 69.)

GELLING AGENTS

Gelatin is a protein processed from the bones, skin, and connective tissue of animals. It may be used as a gelling agent, thickener, stabilizer, emulsifier, or foaming agent. It is available in granulated and sheet forms. Sheet gelatin is sold in different bloom strengths, or gauges, but as there is no universal standard of identification, the strengths of different gauge numbers may vary depending on manufacturer.

Pectin is a gelling agent that occurs naturally in many fruits. It is produced commercially by extraction from citrus or apple skins. Pectin is the gelling agent commonly used in jams, jellies, and preserves. It is also used to make the centers of high-quality jelly beans.

LEFT: *Powdered or granulated gelatin must be bloomed in cold water before use.*

RIGHT: *Leaf or sheet gelatin is bloomed in enough cool water to completely submerge it.*

Agar-agar is a gum derived from sea vegetables. It is available powdered, in flakes or blocks, or as brittle strands. It has very strong gelling properties (stronger than those of gelatin), but its higher melting and gelling points make it unsuitable for some uses. Agar-agar is used in some vegetarian products and confections.

STARCHES

Processed and **refined starches** are used to thicken and stabilize liquid mixtures. They result in a range of textures and consistencies once they set into a gel. Arrowroot, which is sometimes known as arrowroot flour, is derived from the arrowroot plant, a tropical tuber. It is often used for thickening sauces because of the transparent and high-gloss finish it yields. Potato starch comes from potatoes that are cooked, dried, and then ground into a fine powder; it may also be called potato flour. Cornstarch, ground from corn kernels, is used primarily as a thickener, but it is also sometimes used in conjunction with wheat flour to yield softer results in baked goods. Tapioca is derived from the root of the tropical cassava plant, also called manioc. It is available as flakes, granules, and, most commonly, small balls or pellets (called pearl tapioca), and flour; the flour or starch is sometimes called cassava or manioc flour or starch.

Modified (or **converted**) **starches** are modified through a process involving an acid and hydrolysis. The starches produced in this manner function more efficiently as thickeners for frozen items that will be thawed, as they resist separation.

DAIRY PRODUCTS

MILK, CREAM, AND BUTTER are among the dairy products used daily in most bakeshops and pastry kitchens. Customarily, containers and packages are dated to indicate how long the contents will remain fresh.

When storing dairy products, flavor transfer is a particular concern. Store milk, cream, and butter away from foods with strong odors. Wrap cheeses carefully, both to maintain their texture and to prevent their aromas from permeating other foods.

MILK AND CREAM

The milk sold today is typically forced through an ultrafine mesh at high pressure to break up the fat globules, dispersing them evenly throughout the milk in the process known as *homogenization*. Unless milk is homogenized, it will separate, allowing the cream to rise to the top as the milk sits. Milk is also pasteurized to kill bacteria and other harmful organisms by heating it to a specific temperature for a specific period of time (140°F/60°C for 30 minutes, or 161°F/72°C for 15 seconds). Ultrapasteurized milk and cream are heated to at least 280°F/138°C for a longer shelf life.

Milk is labeled according to its milk fat content. Whole milk contains at least 3 percent milk fat. Reduced-fat milk contains 2 percent milk fat, low-fat milk contains 1 percent, and fat-free milk contains less than 0.1 percent.

Heavy or **whipping cream** must contain at least 35 percent milk fat, and is used for whipping. Light cream has between 16 and 32 percent milk fat, and it does not whip easily. It is sometimes used instead of milk to add a richer flavor and creamier texture. Half and half is a mixture of half milk and half cream that typically contains between 10 to 12% milk fat. It cannot be whipped.

Evaporated milk is whole or fat-free milk that is heated in a vacuum to remove 60 percent of its water content.

Sweetened condensed milk is evaporated milk that has been sweetened. It is sold in cans of varying sizes.

Nonfat dry milk (milk powder) is made by removing the water from de-fatted milk. Sold in boxes, it does not contain any milk fat and can be stored at room temperature.

FERMENTED AND CULTURED MILK PRODUCTS

Buttermilk, crème fraîche, sour cream, and yogurt are all produced by inoculating milk or cream with a bacterial strain under precisely controlled conditions. The reaction of the culture with the milk product thickens the milk or cream and gives it a pleasant tangy flavor.

Buttermilk was traditionally the by-product of churning milk into butter. Most buttermilk sold today is nonfat milk to which a bacterial strain has been added and, despite its name, contains only a very small amount of butterfat. Buttermilk has a thick texture and a slightly sour flavor.

Sour cream is cultured cream with 16 to 22 percent fat. Low-fat and nonfat versions of sour cream are also available.

Yogurt is a cultured milk product made from whole, low-fat, or nonfat milk; it may be plain or flavored. Greek yogurt is strained and has a thicker consistency than conventional yogurt. It is available in whole, low-fat, or nonfat varieties and can be plain or flavored.

Crème fraîche is made by adding an acid to cream that has 30 percent milk fat. The acid thickens the cream but does not cause it to ferment, so crème fraîche has a sweet flavor. Its high fat content gives it a velvety texture.

CHEESES

Cheeses may be categorized in many ways. Included here are only a few cheeses that are well suited to and commonly used in baking.

Soft cheeses usually have a high moisture content and are relatively perishable.

Farmer and **baker's cheeses** are cow's milk cheeses with a mild, tart flavor and soft, grainy texture.

Ricotta cheese is a cow's milk cheese with a very mild, delicate flavor; it can be drained to produce a drier, grainy cheese. Ricotta impastata is a smooth, spoonable, dry cheese used when regular ricotta would add too much moisture to a formula, such as cannoli filling.

Cream cheese has a mild, slightly tangy taste and a soft, spreadable texture. The reduced-fat cream cheese sometimes called Neufchâtel (not to be confused with French Neufchâtel, a soft unripened cheese) has less fat than regular cream cheese, but it also has more moisture. This Neufchâtel may often be used interchangeably with regular cream cheese without requiring changes to the formula to compensate for the lower fat and higher moisture. Other types of cream cheese include low-fat, nonfat, whipped, and flavored; cream cheese is sold in large blocks, tubs, or smaller packages.

Mozzarella cheese, made from either cow's or water buffalo's milk, has a mild, slightly tangy flavor and a soft, creamy, slightly elastic texture. Mozzarella is sold fresh or aged, in balls or blocks; it is also available grated.

Cheddar cheese is a dry semifirm cheese made from cow's milk. During manufacture it undergoes a cheddaring process where the curds are piled and pressed, which causes the expulsion of whey and allows for the development of characteristic Cheddar texture. Cheddar cheese originated in England, but is now commonly made in America and elsewhere.

Parmesan cheese (Parmigiano-Reggiano) is a very hard, crumbly grating cheese. It gets its special flavor and texture from an extended aging period, during which it dries and develops an intense pungency.

Other cheeses have been making their way into desserts, especially those with a savory slant. These include bloomy rind cheeses such as Camembert, blue cheeses such as Stilton, and fresh goat cheese.

BUTTER

The best-quality butter has a sweet flavor, similar to fresh heavy cream; if salt has been added, it should be barely detectable. The color of butter will vary depending upon the breed of cow, the diet of the cow, and the time of year, but is typically a pale yellow.

Both salted and unsalted butter are available. The designation "sweet butter" indicates only that the butter is made from sweet cream (as opposed to sour). If unsalted butter is desired, be sure that the word "unsalted" appears on the package.

Old butter takes on a very faintly cheesy flavor and aroma, especially when heated. As it continues to deteriorate, the flavor and aroma can become quite pronounced and unpleasant, much like sour or curdled milk.

Grade AA butter has the best flavor, color, aroma, and texture. Grade A butter is also of excellent quality. All grades of butter must contain a minimum of 80 percent milk fat. Grade B may have a slightly acidic taste, as it can be made from soured cream.

EGGS

EGGS ARE GRADED BY THE USDA based on appearance and freshness. The top grade, AA, indicates a very fresh egg (if they have been properly stored and recently purchased) with a white that will not spread unduly once the egg is broken and a yolk that rides high on the white's surface.

Eggs come in a number of sizes: jumbo, extra-large, large, medium, small, and peewee. Large or extra-large eggs are used in most baking formulas.

Rotate stock as necessary to ensure that only fresh eggs are used. Upon delivery, look for shells that are clean and free of cracks. Discard any eggs with broken shells; they are at a high risk for contamination.

Dried eggs are available in various forms: whole eggs, yolks, or whites. Pasteurized eggs are sold as whole eggs (which may be fortified), yolks, or whites. They can be purchased in refrigerated or frozen liquid form, as well as dried and powdered. Once thawed, frozen pasteurized eggs are perishable and must be stored and handled like fresh eggs.

Egg substitutes may be entirely egg-free or may be made from egg whites with dairy or vegetable products substituted for the yolks. Egg substitutes are used for specific types of dietary baking and cooking.

OILS, SHORTENINGS, AND OTHER FATS

FATS AND OILS PROVIDE many functions in baked goods. They tenderize, add flavor, have leavening strength, add moisture, and can create a flaky texture, among many other things.

OILS AND SHORTENINGS

Vegetable and other similar oils are produced by pressing a high-oil-content food, such as olives, nuts, corn, avocados, or soybeans. The oil may then be filtered, clarified, or hydrogenated, depending on its intended use. All oils and shortenings should be stored in a dry place away from light and extremes of heat.

Vegetable oils are often neutral in flavor and color and have relatively high smoking points. If the label does not specify a source, the oil is usually a blend of oils. Canola oil (or rapeseed oil) is a light, golden-colored oil extracted from rapeseeds; it is low in saturated fat. Corn oil is a mild-flavored refined oil, medium yellow in color, inexpensive, and versatile. Soybean oil has a pronounced flavor and aroma; it is found primarily in blended vegetable oils and margarines.

Olive oils vary in heaviness and may be pale yellow to deep green, depending on the particular fruit and the processing method. Cold-pressed olive oil is superior in flavor to thermally refined oil. The finest olive oil available is extra-virgin olive oil, with a naturally low level of acid, typically less than 1 percent. Virgin olive oil, also known as pure olive oil, is the next-best grade. Both extra-virgin and virgin olive oils are prized for their flavor. For this reason they are often used in preparations where the oil is not cooked, and in or on products after they have been cooked or baked, to preserve and take advantage of their flavor. A blend of refined olive oil (virgin oil that has been thermally treated to remove its undesirable characteristics) and virgin olive oil is commonly used for baking and cooking.

Nut oils have rich aromas. They are usually more perishable than vegetable or olive oils. Store them under refrigeration to keep them fresh, and use them within a few weeks of opening for the best flavor. Most peanut oils are a pale yellow refined oil, with a very subtle scent and flavor, but some less-refined types are darker and have a more pronounced peanut flavor.

Oil sprays are vegetable oils (usually blended) packaged in pump or aerosol spray containers. They are used for lightly coating pans and griddles.

Hydrogenated shortenings are produced from liquid fats that have been chemically altered under pressure with purified hydrogen to make them solid at room temperature. Shortening may contain some animal fats unless specifically labeled as vegetable shortening.

Emulsifying shortening or high-ratio shortening is a hydrogenated shortening that contains monoglycerides and other agents so that it better absorbs and retains moisture in baked goods. Emulsifying shortening is used in recipes where the amount of sugar and liquids is proportionally greater than the flour.

OTHER FATS

Margarine is a solid fat made with hydrogenated vegetable oils and milk, either liquid or milk solids. Regular margarines contain 80 percent fat. Margarine may also contain salt, artificial flavorings, and preservatives. A wide variety of margarines is available, from regular to whipped to reduced-fat and cholesterol-lowering blends, in sticks, blocks, or tubs.

Lard is made from rendered pork fat. It is processed and hydrogenated to make it solid. It may also be treated to neutralize its flavor.

CHOCOLATE

THE EXTRACTION AND PROCESSING of chocolate from cacao beans is a lengthy and complex process.

The first stage involves crushing the kernels into a paste; at this point it is completely unsweetened and is called *chocolate liquor*. The liquor is then further ground to give it a smoother, finer texture, and sweeteners and other ingredients may be added. The liquor may also be pressed to force out most of the cocoa butter. The solids that are left are ground into cocoa powder. Cocoa butter is combined with chocolate liquor to make baking and eating chocolates, or it may simply be flavored and sweetened to make white chocolate. Cocoa butter also has numerous pharmaceutical and cosmetic uses.

Chocolate keeps for several months if wrapped and stored in a cool, dry, ventilated area away from sunlight. Ordinarily it should not be refrigerated, since this could cause moisture to condense on the surface of the chocolate. Under particularly hot and humid kitchen conditions, however, it may be preferable to refrigerate or freeze chocolate to prevent loss of flavor.

Sometimes stored chocolate develops a white “bloom.” Bloom merely indicates that some of the cocoa butter has melted and then recrystallized on the surface; chocolate with a bloom can still be safely used. Cocoa powder should be stored in tightly sealed containers in a dry place. It will keep almost indefinitely.

TYPES OF CHOCOLATE

Cocoa powder is a powdered chocolate product with a cocoa butter content ranging from 10 to 25 percent. Dutch-process cocoa powder, which is 22 to 24 percent cocoa butter, has been treated with an alkali to reduce its acidity. Dutch-process cocoa powder is darker in color than natural cocoa powder.

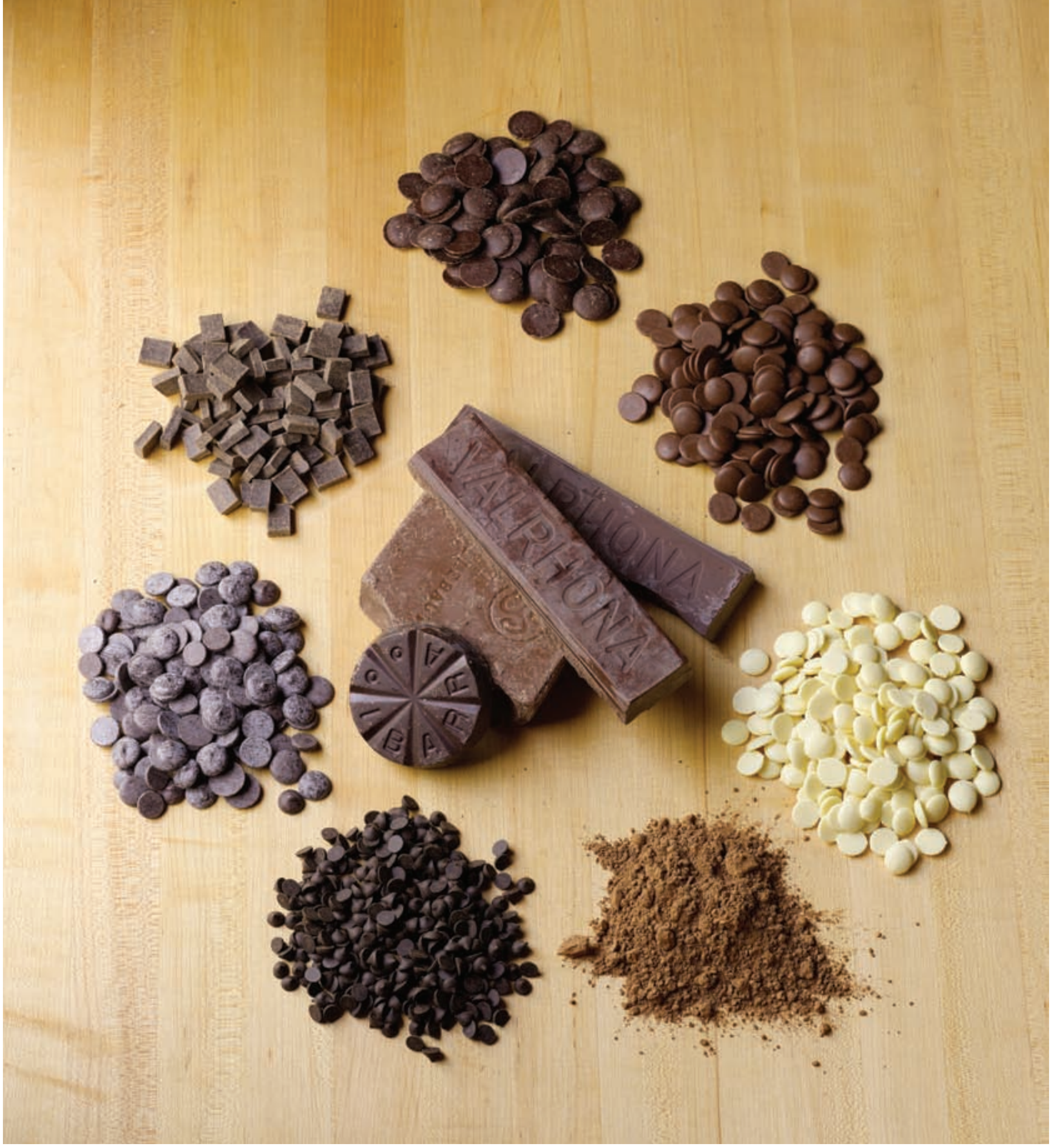
Unsweetened chocolate (also known as *bitter* or *baking chocolate*) contains no sugar. It is approximately 95 percent chocolate liquor and 5 percent cocoa butter.

Bittersweet chocolate typically contains at least 50 percent chocolate liquor, 15 percent cocoa butter, and 35 to 50 percent sugar.

Semisweet chocolate usually contains at least 35 percent chocolate liquor, 15 percent cocoa butter, and 40 percent sugar. This chocolate may be used interchangeably with bittersweet in most recipes.

Couverture chocolate contains 15 percent chocolate liquor, 35 percent cocoa butter, and 50 percent sugar. Its high fat content makes it ideal for coating candy, pastries, and cakes.

Milk chocolate is 10 percent chocolate liquor, 20 percent cocoa butter, 50 percent sugar, and 15 percent milk solids.



CLOCKWISE FROM TOP: *Dark chocolate, milk chocolate, white chocolate, cocoa powder, carob, semisweet chocolate, unsweetened chocolate, and center (left to right): Mexican chocolate blocks, milk chocolate blocks, dark chocolate blocks*

Sweet chocolate is 15 percent chocolate liquor, 15 percent cocoa butter, and 70 percent sugar. Both milk and sweet chocolates often contain other added ingredients and flavors.

White chocolate is made from cocoa butter, sugar, flavorings, and milk. Since 2004, "white chocolate" has had its own standards set by the U.S. Food and Drug Administration.

Confectionery coating is a chocolate product containing no cocoa butter. Confectionery coating is made with vegetable fats and requires no tempering prior to use. It is also referred to as *summer coating* or *compound chocolate*. Confectionery coating is available in a range of flavors such as milk chocolate and bittersweet chocolate.

LEAVENERS

THERE ARE MANY DIFFERENT ways in which a baked product may be leavened. Some are leavened through the use of a technique or method, others by the addition of an ingredient, and others still by a combination of the two. (For more information on leavening, see "Leaveners" in Chapter 4, page 64.) Ingredients that are added to provide leavening fall into one of two categories, biological (yeast) or chemical (baking soda or baking powder).

YEAST

Active dry yeast is dehydrated, dormant yeast granules. It requires a warm liquid to activate it. Active dry yeast should be stored in an airtight container in the refrigerator or freezer.

Rapid rise yeast is a type of dehydrated yeast formulated to provide a quick rise. It is extremely active once rehydrated and dies quickly. Rapid rise yeast should be stored in an airtight container in the refrigerator or freezer.

Instant dry yeast is derived from cultures that can ferment using both beet sugar and malt sugar, guaranteeing fermentation activity through all phases of the dough. It can be used without rehydration. When working with instant dry yeast, very cold or ice water should be used in the mixing process.

Compressed fresh yeast is a highly perishable yeast product. It should have a moist, firm texture and show no discoloration or dry, crumbly spots. Store it under refrigeration.

CHEMICAL LEAVENERS

Baking powder is a mixture of bicarbonate of soda and an acid (the leavening agents) and a starch. It may be double- or single-acting. (For more information on baking powder, see "Chemical Leaveners" in Chapter 4, page 65.)

Baking soda is sodium bicarbonate. It requires both an acid and moisture in order to leaven a product. (For more information on baking soda, see "Chemical Leaveners" in Chapter 4, page 65.)

SALT

Table salt may be iodized, meaning it contains added iodine, a preventive against goiter, or non-iodized. Its small, dense, grains adhere poorly to food, dissolve slowly in solution, and are difficult to blend.

Kosher salt is a coarse salt that weighs less by volume than table salt. It dissolves more readily and adheres better to food.

Sea salt is collected through the evaporation of natural saltwater. The salt's thin, flaky layers adhere well to food and dissolve quickly. Sea salt also contains various trace minerals that occur naturally in the waters from which they are collected. As a result, sea salts from different areas of the world taste different. All are generally more complex in flavor than table and kosher salt. Sea salt can be purchased in fine-grain and coarser crystal forms.

Rock salt, also known as *bay salt*, is a very coarse salt used in crank ice cream makers. It may have a gray tint from the impurities it contains. Rock salt is generally not manufactured for consumption.

HERBS, SPICES, AND FLAVORINGS

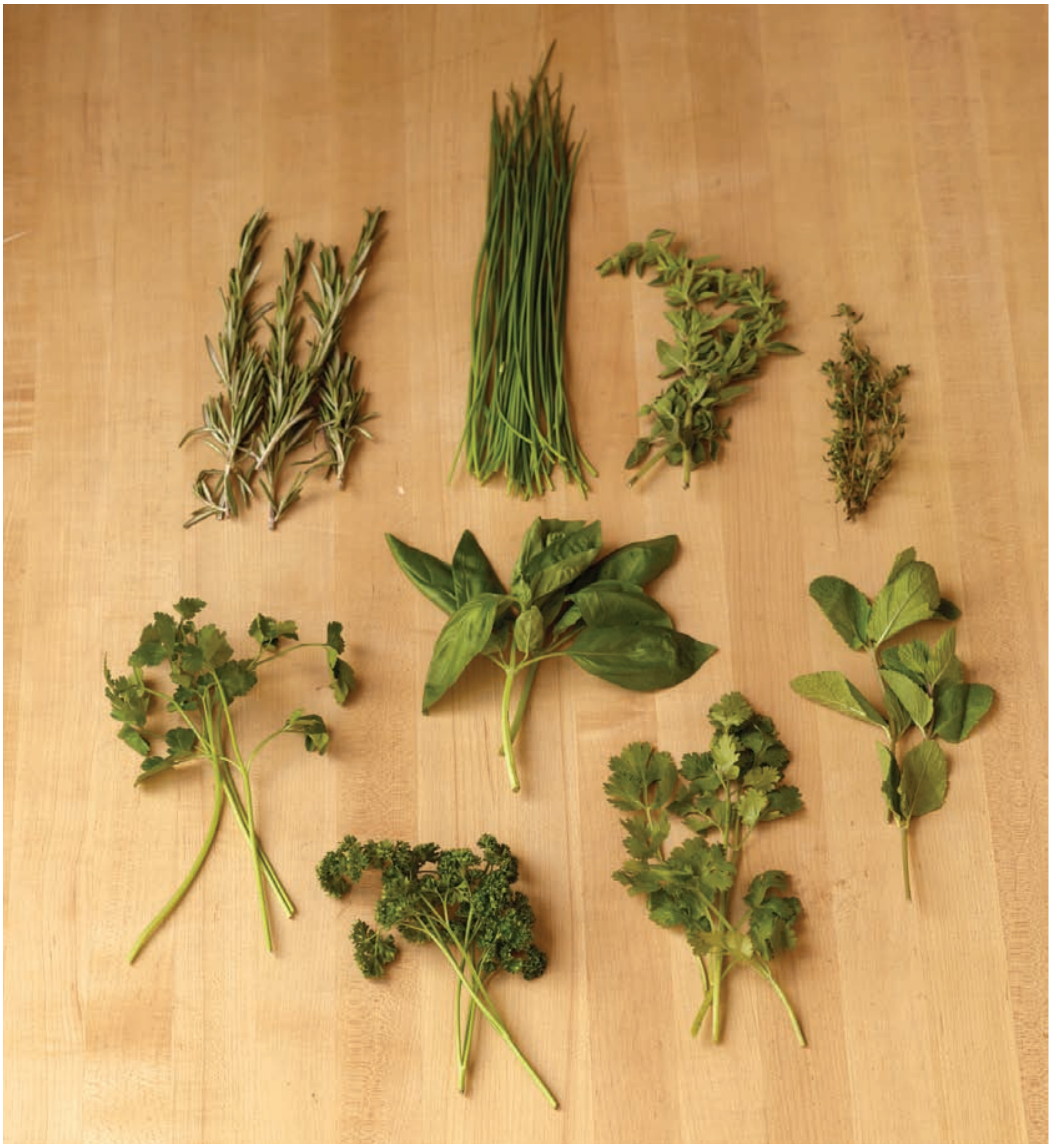
HERBS MAY BE USED EITHER fresh or dried; note that dried herbs have increased potency. Spices may be used whole or ground. They maintain freshness better if they are stored whole. Extracts are commonly derived from herbs, spices, and nuts. They are prepared in an alcohol-based solution. Extracts can lose their potency with prolonged exposure to air, heat, or light.

HERBS

Fresh herbs should appear fresh and firm, with no evidence of wilting or bruising. Store them under refrigeration, loosely wrapped in dampened paper towels and then plastic. Some herbs such as basil and mint, whose leaves are easily bruised, are best stored as if they were bouquets of flowers, with the stems in cool water, if space permits.

Basil belongs to the mint family. It has green pointed leaves and a pungent licorice flavor. It may be used fresh or dried.

Chive belongs to the onion family and has a mild onion flavor. It has long, slender light green stems and lavender-colored flowers, both of which are edible and used commonly in culinary applications.



CLOCKWISE FROM TOP LEFT: *Rosemary, chives, oregano, thyme, mint, flat-leaf parsley, curly parsley, cilantro, basil (center)*

It is available fresh or dried but is most commonly used as a fresh herb.

Dill has blue-green thread-like foliage and yellow feathery flowers that produce small brown seeds, all of which are edible; the seeds have the most pungent flavor.

Mint comes in many varieties. Peppermint has a strong flavor. It is available fresh, dried, or as an extract. Spearmint has gray-green leaves and a milder flavor than peppermint.

Oregano belongs to the mint family. It has small oval leaves. Oregano and marjoram are similar in flavor, but oregano is stronger. Both may be used fresh or dried.

Parsley has a mild, peppery flavor. Its leaves may be curly or flat, depending on the variety. It is available fresh or dried, but is primarily used as a fresh herb.

Rosemary is another member of the mint family, with leaves shaped like pine needles. It has a resin-like aroma and flavor and is available fresh, dried, or ground.

SPICES

Allspice is the dried berry of the pimiento tree. Its flavor is reminiscent of cinnamon, nutmeg, and cloves. It is available whole or ground.

Anise and **caraway seeds** are both derived from herbs in the parsley family. Anise seeds have a distinct licorice flavor. Anise is available as whole seeds, ground, or as an extract. Caraway seeds are sometimes labeled "kummel." They are available whole or ground.

Cardamom is a plant in the ginger family. Each of its pods contains fifteen to twenty small seeds. Cardamom has a pungent aroma and a sweet and spicy flavor. It is available as whole pods or ground.

Cinnamon is the stripped dried bark of an evergreen in the laurel family. It is sold whole (in sticks) or ground.

Cloves are the dried unopened buds of a tropical evergreen tree. They have a strong flavor. Cloves are available whole or ground.

Mace is the lacy membrane covering the nutmeg seed. It has a pungent nutmeg flavor and is available ground or whole.

Nutmeg is the seed of the nutmeg tree. It has a sweet and spicy flavor and is available either whole or ground.

Peppercorns may be black, white, green, or pink. Black peppercorns are picked when not quite ripe and then dried; the Tellicherry peppercorn is one of the most prized black peppercorns. White peppercorns are allowed to ripen before they are picked, then the husks are removed and they are dried. Black and white pepper are available as whole berries, cracked, or ground. Mignonette or shot pepper is a combination of coarsely ground or crushed black and white peppercorns. Green peppercorns are picked when underripe, then packed in vinegar or brine or freeze-dried. Drain and rinse brine-packed peppercorns before using; reconstitute freeze-dried peppercorns in water before use. Pink peppercorns are the dried berries of the baies rose plant, not a true peppercorn. They are usually available freeze-dried.

FLAVORINGS

Vanilla beans are the pods of a delicate orchid flower. Vanilla has a distinct aromatic flavor. Vanilla is available as whole beans and as an extract. Vanilla is also available commercially in powder and paste forms.

Garlic is the bulb of the garlic plant; each bulb is made up of seven to twelve cloves. It is available fresh, powdered, or granulated.

Ginger is the rhizome of the ginger plant. It has a pungent, hot flavor. It is available fresh, in dried pieces, ground, or crystallized.

EXTRACTS

THE PASTRY CHEF AND BAKER use a variety of flavoring extracts for cooking and baking. Many different herbs, spices, nuts, and fruits are used to prepare extracts, which are alcohol based. Common extracts include vanilla, lemon, mint, and almond.

Extracts can lose their potency if exposed to air, heat, or light. To preserve their flavor, store in tightly capped dark glass jars or bottles away from heat or direct light.

WINES, CORDIALS, AND LIQUEURS

A GENERAL RULE OF THUMB for selecting wines, cordials, and liqueurs for use in cooking and baking is that if it is not suitable for drinking, it is not suitable for cooking. Brandies (including fruit brandies and Cognac), Champagne, dry red and white wines, port, Sauternes, sherry, stout, ale, beer, and sweet and dry vermouth, as well as liquors and liqueurs such as bourbon, crème de cassis, kirschwasser, gin, Kahlúa, rum, and Scotch are all useful in the bakeshop.

Purchase wines and liqueurs that are affordably priced and of good quality. Table wines lose their flavor and become acidic once they are opened, especially if subjected to heat, light, and air. To preserve flavor, keep them in sealed bottles or bottles fitted with pouring spouts, and refrigerate them when not needed. Fortified wines (Madeira, sherry, and port, for example) are more stable than table wines and can be held in dry storage if there is not enough room to refrigerate them.

COFFEE AND TEA

COFFEE AND TEA MAY BE used to infuse flavor in countless pastry and confection preparations.

Tea is most often used to infuse its flavor into a warm liquid that will be added to the item, whereas coffee may be used in its many forms to add its flavor. Coffee beans, ground or whole, may be used to infuse their flavor as is done with tea. Powdered or instant coffee is often dissolved in a small amount of water or other liquid to form a paste that is then added directly to the formula.

NUTS

NUTS HAVE A NUMBER OF USES, adding flavor and texture to many dishes. Nuts that have not been roasted or shelled will keep longer than those that have. Shelled nuts can be stored in the freezer or refrigerator, if space allows. In any case, they should be stored in a cool, dry, well-ventilated area and checked periodically to be sure they are still fresh.

Almonds are teardrop-shaped nuts, part of a fruit that resembles an apricot. They have a pale tan, woody shell. Sweet almonds are sold whole, in the shell or shelled, blanched or unblanched, roasted, sliced, or slivered, and as almond paste and other products. The sale of bitter almonds is illegal in the United States; however, once processed, they are used to flavor extracts and liquors that are readily available.

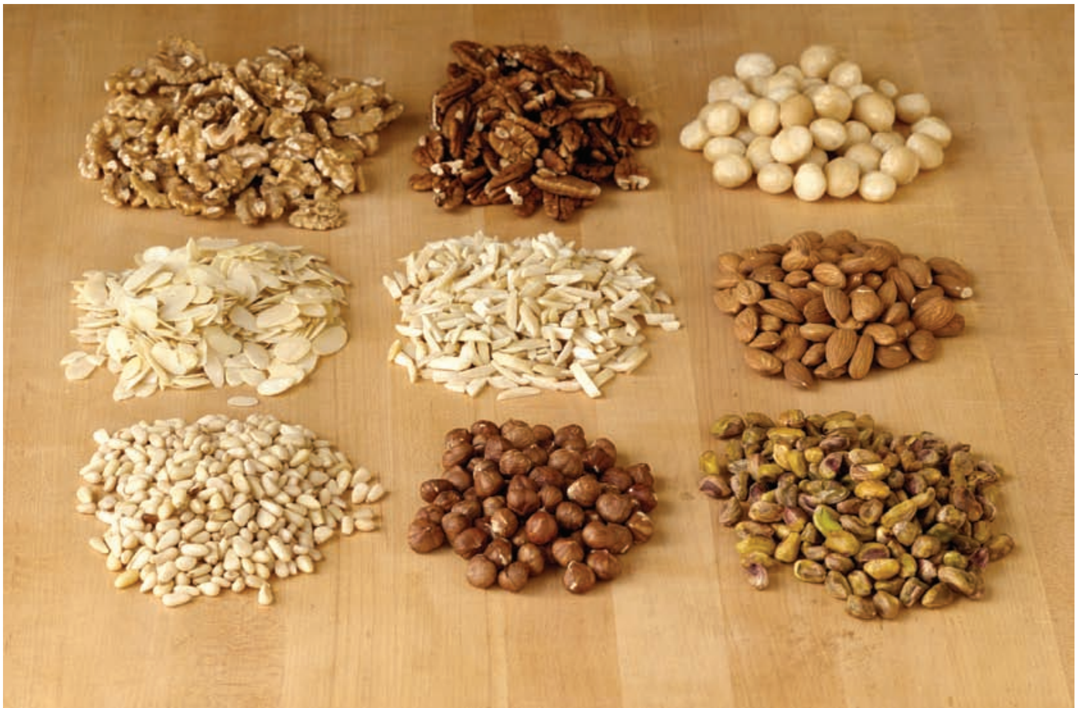
Brazil nuts are among the largest nuts. They grow in segmented clusters; each segment contains a hard, wrinkled, three-sided brown seed. Brazil nuts are sold whole, in the shell or shelled.

Cashews are kidney-shaped nuts that grow as the appendage of an apple-like fruit (the fruit is not eaten). The shell of the cashew contains toxic oils, so cashews are always sold shelled, raw or toasted, whole or in pieces, or as a nut butter.

Chestnuts have hard glossy brown shells covering the round or teardrop-shaped nuts. Chestnuts are sold whole, in the shell or shelled, canned, packed in syrup or water, candied, frozen, in vacuum-sealed packages, or as purée.

Coconuts are the fruits of a type of palm tree. The "nut" is composed of a woody brown outer shell covered with hairy fibers surrounding a layer of rich white nutmeat. Coconuts are sold whole, and coconut meat is sold shredded or in flakes (sweetened or unsweetened), frozen, or dried (desiccated). Coconut milk, coconut cream, coconut oil, and other coconut-based products are also available.

Hazelnuts (also called *filberts*) are small, nearly round nuts, rich and delicately flavored. Their shiny, hard shells have a matte spot where they were attached to the tree. Hazelnuts are sold whole, in the shell or shelled, or chopped.



TOP ROW, LEFT TO RIGHT: *Walnuts, pecans, macadamias*

MIDDLE ROW, LEFT TO RIGHT: *Sliced almonds, slivered almonds, whole almonds*

BOTTOM ROW, LEFT TO RIGHT: *Pine nuts, hazelnuts, pistachios*

Macadamia nuts are extremely rich, sweet nuts native to Australia. They are pale in color and nearly round. Macadamia nuts are sold shelled and roasted in coconut oil.

Peanuts are sold in the shell or shelled, raw (or natural), roasted, or dry-roasted, or as a butter.

Pecans have two lobes and a rich flavor. The shell is medium brown, smooth, and glossy. They are sold in the shell or shelled as halves or pieces.

Pistachio nuts naturally have cream-colored shells; the nutmeat is green, with a distinctive sweet flavor. Pistachios are usually sold whole in the shell, raw or roasted (usually salted), natural or dyed red. Occasionally they are sold shelled, whole or chopped.

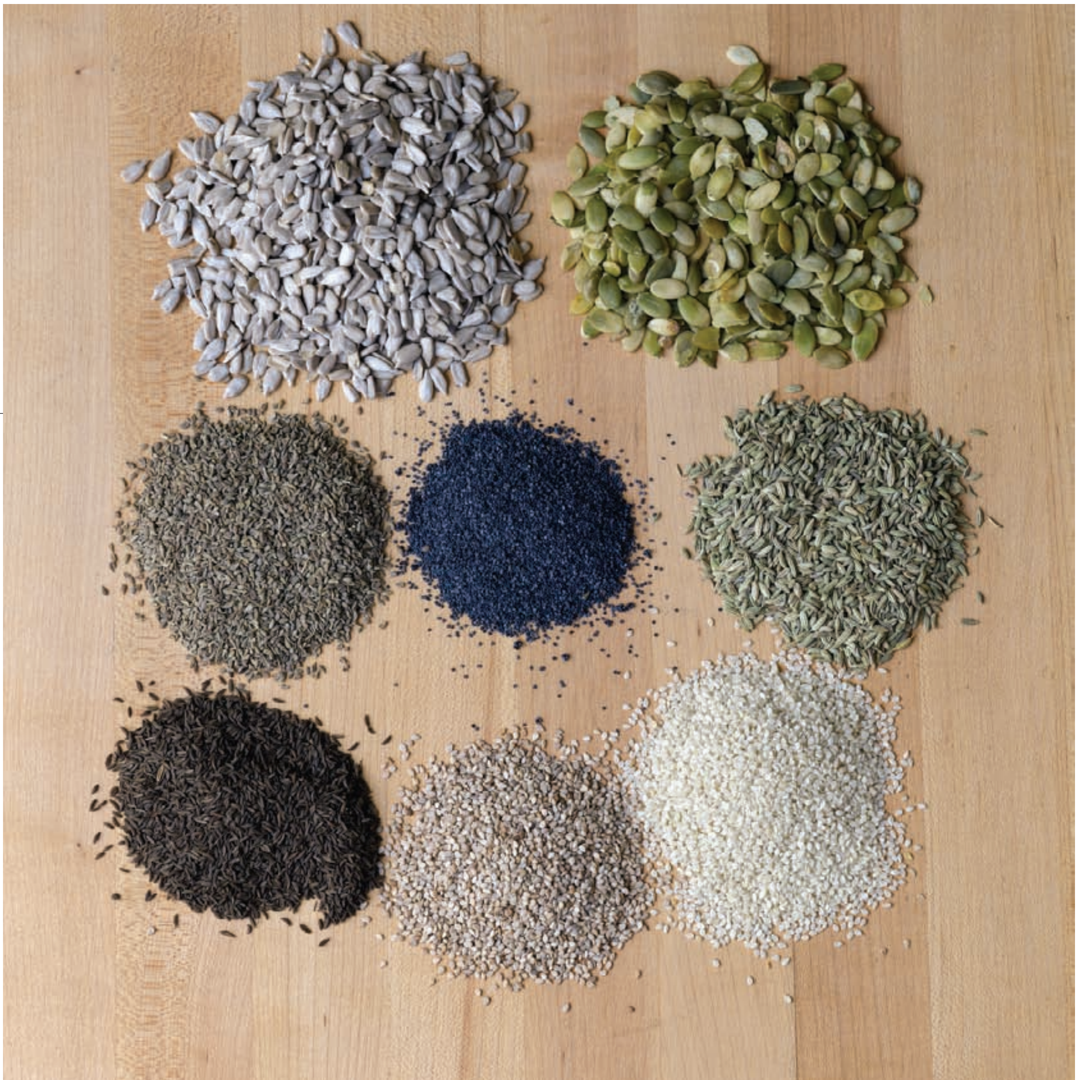
Walnuts are mild, tender, oily nuts. They grow in two segments inside a hard shell and are typically light brown with deep ridges patterning the surface. White walnuts (or butternuts) and black walnuts are two North American varieties. Butternuts are richer, while black walnuts have a stronger flavor. Walnuts are sold whole in the shell, shelled as halves or pieces, or pickled.

SEEDS

SOME OF THE SEEDS USED in the kitchen are considered spices (celery or fennel seeds, for example), but others, including sunflower and pumpkin seeds, are treated more like nuts. These seeds, and the pastes made from them, should be stored in the same manner as nuts.

Anise seeds are small gray to gray-green almond-shaped seeds that have an intense licorice flavor. They are used whole or ground.

Caraway seeds are small, light brown, crescent-shaped seeds with an intense flavor. They are commonly used in rye bread.



TOP ROW, LEFT TO RIGHT: *Sunflower seeds, pumpkin seeds*

MIDDLE ROW, LEFT TO RIGHT: *Anise seeds, poppy seeds, fennel*

BOTTOM ROW, LEFT TO RIGHT: *Caraway seeds, sesame seeds (unhulled), sesame seeds (hulled)*

Poppy seeds are tiny, round, blue-black seeds with a rich, slightly musty flavor. They are sold whole and as a paste.

Pumpkin seeds are flat, oval, cream-colored seeds. They have a semihard hull and a soft, oily interior. They are sold whole in the shell (raw or roasted) and shelled (raw or roasted).

Sesame seeds are tiny, flat, oval seeds. They may be black, tan, or ivory. They are somewhat oily, with a rich, nutty flavor. Sesame seeds are sold whole, hulled or unhulled, toasted, and as a paste (also known as *tahini*).

Sunflower seeds are flat, teardrop-shaped, light tan, oily seeds with a woody black-and-white shell. Sunflower seeds are sold whole in the shell or shelled.

SELECTING AND HANDLING FRESH PRODUCE

FRUITS AND VEGETABLES should be free of bruises, mold, brown or soft spots, and pest damage. They should be plump, not shriveled. Any attached leaves should be unwilted.

Since it is usually not possible to examine produce until it has been delivered to the restaurant or bakery, one way to ensure quality is to buy according to grade. Grading is based on USDA standards. Lower-grade items, particularly fruits, may be used successfully in preparations such as baked pies and puddings, where appearance is not a factor. Most produce has a noticeably better quality and flavor the closer it is to its source.

Fruits that have been shipped, such as apricots, peaches, and strawberries, for example, may require special handling that can drive up their cost, despite continued efforts to develop strains that combine good shipping qualities with superior flavor.

More and more vegetables are being grown hydroponically; that is, in nutrient-enriched water rather than soil. Hydroponic growing takes place indoors under regulated temperature and lighting conditions, so any growing season may be duplicated. Hydroponically grown lettuces, spinach, herbs, and tomatoes are all readily available. Although they have the advantage of being easy to clean, these products may have less flavor than conventionally grown fruits and vegetables.

With a few exceptions (including bananas, potatoes, tomatoes, and dry onions), ripe fruits and vegetables should be refrigerated. Unless otherwise specified, produce should be kept at a temperature of 40° to 45°F/4° to 7°C, with a relative humidity of 80 to 90 percent.

Keep fresh produce dry; excess moisture can promote spoilage. Likewise, most produce should not be peeled, washed, or trimmed until just before use. The outer leaves of lettuce, for example, should be left intact; carrots should remain unpeeled. The exceptions to this rule are the leafy tops on vegetables such as beets, turnips, carrots, and radishes: They should be removed, and either discarded or used as soon as possible, because even after harvesting, these leaves absorb nutrients from the vegetable and increase moisture loss.

Fruits and vegetables that need further ripening, notably peaches and pears, should be stored at room temperature, 65° to 70°F/18° to 21°C. Once the produce is ripe, refrigerate it to keep it from overripening.

SUSTAINABILITY AND SEASONALITY

Sustainability refers to healthy ways of raising, growing, and harvesting food and ensuring that the land can support both the grower and the crop into the future. Is it not only healthy for consumers, but for plants, animals, and the environment as well. Sustainable farming does not harm the environment through the use of harmful pesticides or genetically modified organisms (GMOs), or through overfarming. Sustainable farms take care of their workers and are humane toward animals; sustainable agriculture respects the farmers by paying them a fair return. Sustainability is meant to support and improve the community, especially the communities where farms are based.

Consumers and chefs are becoming increasingly aware of the positive effects of sustainability. One of the primary ways to support sustainability is to buy locally. This allows the chef to know the quality and conditions under which the food they are using is raised, grown, and harvested. Buying locally, in addition to supporting the local economy, often means better condition of ingredients, since items that have traveled a far distance have often lost quality and freshness. Items such as apricots, peaches, and berries are especially difficult to ship, and locally sourcing delicate ingredients such as these can result in better flavor, yield, and overall product. Consumers are more and more supportive of the local food movement, and will pay a premium for items like locally milled grains, fresh dairy products, and produce from within their communities.

Running a sustainable kitchen will sometimes also mean an increased focus on seasonality. Seasonality refers to buying ingredients that are in their optimal growing season at that time of year. In-season items will be much more flavorful and of higher quality than produce that is outside of its growing season, as well as less expensive than the same item at a different time of the year. Consumers are increasingly alert to the benefits of a seasonal menu, and the demand for fresh, local produce and ingredients is higher than ever. Be on the lookout for local growers who might be offering specialty items, such as heirloom varieties of fruit or farm-fresh eggs. In addition to appealing to customers, these types of ingredients may offer a way to introduce new and exciting dishes to the dessert menu.

APPLES

The most commonly available apple varieties include Golden and Red Delicious, McIntosh, Granny Smith, Rome Beauty, Fuji, and Gala. There are, however, hundreds of other varieties grown in orchards throughout the country.

Multipurpose apple varieties, good as table fruit, in baking, for sauces, and for freezing, include Red and Golden Delicious (firm, sweet, and aromatic), Granny Smith (tart, extremely crisp, and fine-textured), McIntosh (sweet and very juicy, with a crisp texture), Rome Beauty (firm flesh with a mild tart-sweet flavor), and Winesap (firm, tart-sweet, and aromatic).

Baking varieties include Greening (mild, sweet-tart flavor; good for pies and sauces; also freezes well), Jonathan (tender, semitart flesh), and Northern Spy (crisp, firm-textured, and juicy, with a sweet-tart taste).

Fresh apples can be held in climate-controlled cold storage for many months without significant loss of quality. This makes it possible to get good fresh apples throughout the year.

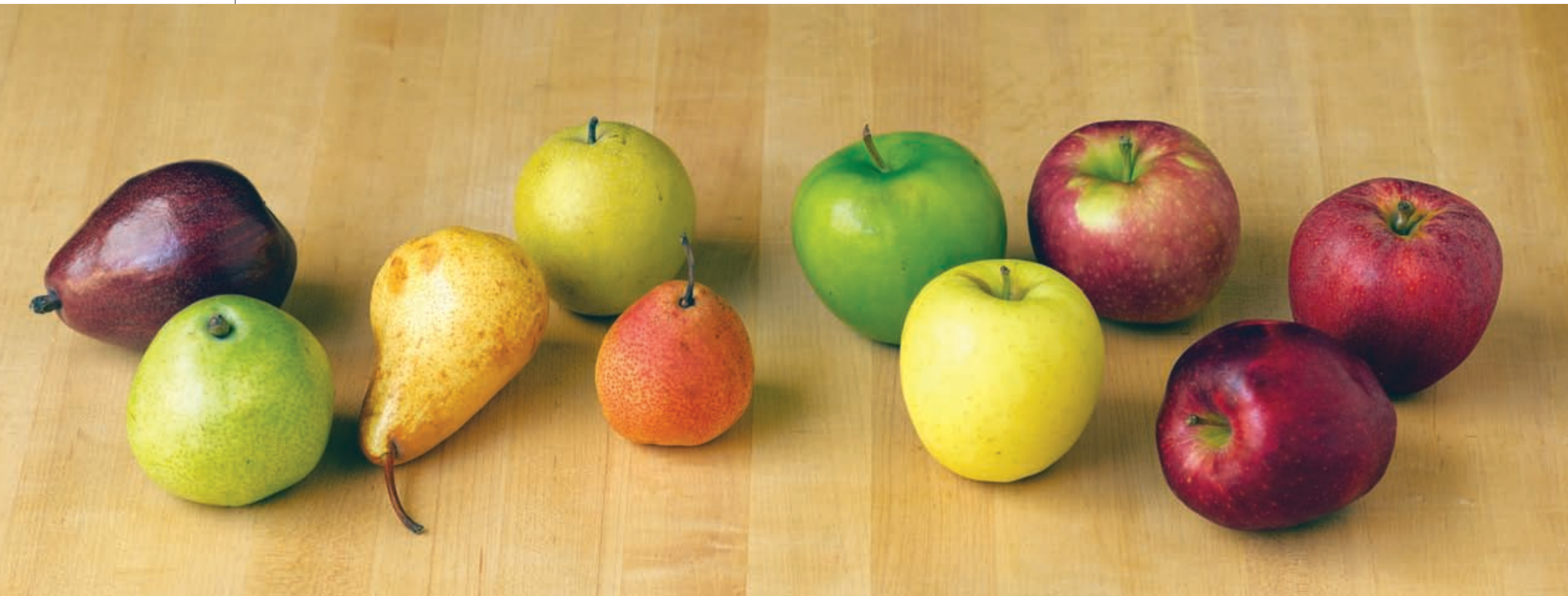
PEARS

Pears, like apples, are grown in many varieties, the most common being Bartlett, Bosc, Comice, d'Anjou, and Seckel. Because the flesh of pears is extremely fragile, they are picked for shipping before they have fully ripened. The fruit continues to soften at room temperature. In addition to being eaten out of hand, pears are often poached whole or used in sorbet and tarts.

Asian pears are apple-shaped fruit with a smooth skin that ranges in color from green to yellow-brown. The white flesh has a juicy, mildly sweet flavor.

Bartlett pears, also known as Williams pears, have green skin that turns yellow as the fruit ripens. Red Bartlett pears have a brilliant scarlet-colored skin.

FROM LEFT TO RIGHT: *Red d'Anjou pear, green d'Anjou pear, Bosc pear, Asian pear, Forelle pear, Granny Smith apple, Golden Delicious apple, McIntosh apple, Red Delicious apple, Gala apple*



Bosc pears have a long neck and dark, russeted skin that turns brown when the fruit is ripe.

Comice pears are round with a short neck and stem and a greenish-yellow skin, sometimes with a reddish blush. They are very sweet and juicy.

D'Anjou pears have green skin that becomes yellow as they ripen and may have brown scarring.

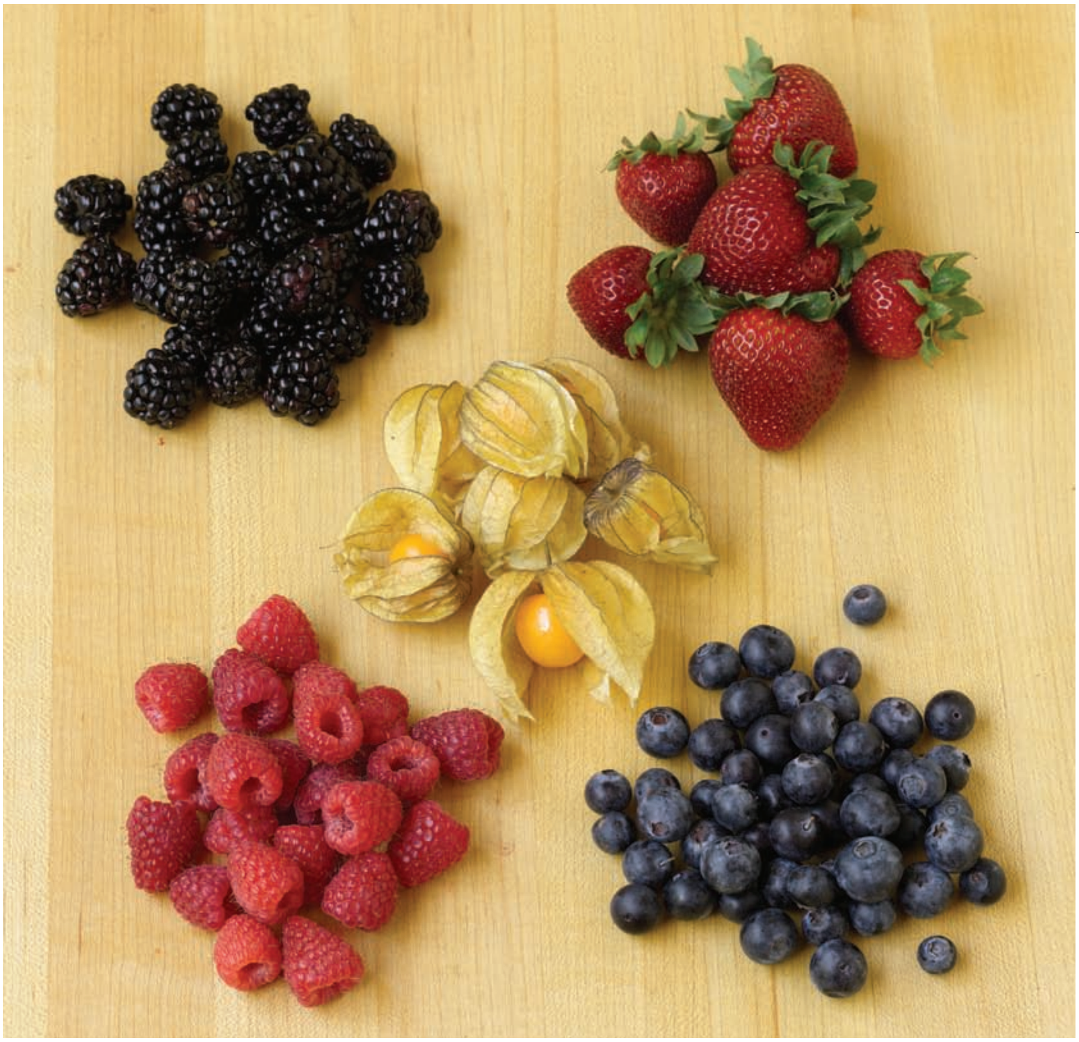
Seckel pears are small and crisp, with green skin and a red blush. They are usually eaten fresh.

BERRIES

The season for fresh berries varies from region to region, though many berries are widely available as imports from other regions or countries at virtually any time of the year. But even with improved handling and shipping methods, some specialty berries are still only available fresh in season from local purveyors. A variety of processed forms are also available: frozen (individually quick frozen, or IQF, with or without sugar), purées, concentrates, and dried.

With the exception of cranberries, fresh berries are highly perishable and are susceptible to bruising, mold, and overripening in fairly short order. Juice-stained cartons or juice leaking through the carton is a clear indication that the fruit has been mishandled or is old.

Berries (except for cranberries) can be eaten fresh. All can be used in baked items, syrups, purées and sauces, cordials, jellies, jams, and syrups. Some classic berry preparations include strawberry



CLOCKWISE FROM TOP LEFT: *Blackberries, strawberries, blueberries, raspberries, and gooseberries (center)* shortcake, fresh berry cobblers, pies, jams, jellies, and ice creams.

Blackberries, also known as *bramble berries*, resemble raspberries in form but are deep purple in color. Their peak season is mid- to late summer.

Blueberries are bluish-purple berries with a dusty silver-blue bloom. Typically, smaller berries have a sweeter, more intense flavor than larger berries.

Boysenberries are a hybrid of the raspberry, blackberry, and loganberry.

Cranberries are shiny red (some have a white blush), firm, and sour.

Currants are small round berries that may be red, black, or white. The red are generally the sweetest.

Elderberries are small and purple-black. They are typically used in cooked applications, as they have a very sour flavor.

Gooseberries have a smooth skin and a papery husk that may still be attached when they are sold. They can be green, golden, red, purple, or white. Some have fuzzy skins.

Grapes are shiny, smooth skinned, and range in color from green to deep purple and in flavor from very sweet to sour. Dried, they are known as raisins. Dried seedless Zante grapes are known as dried currants.

Raspberries are actually clusters of tiny fruits (drupes), each containing a seed; red, black, and yellow (golden) or white varieties are available.

Strawberries are red, shiny, heart-shaped berries with their tiny seeds on the exterior. They are available year-round, but their peak season is late spring to early summer. Generally speaking, small berries have a sweeter, more intense flavor than the larger berries.

CITRUS FRUITS

Citrus fruits are characterized by their extremely juicy segmented flesh and skins that contain aromatic oils. Grapefruits, lemons, limes, and oranges are the most common citrus fruits. They range in flavor from very sweet (oranges) to very tart (lemons).

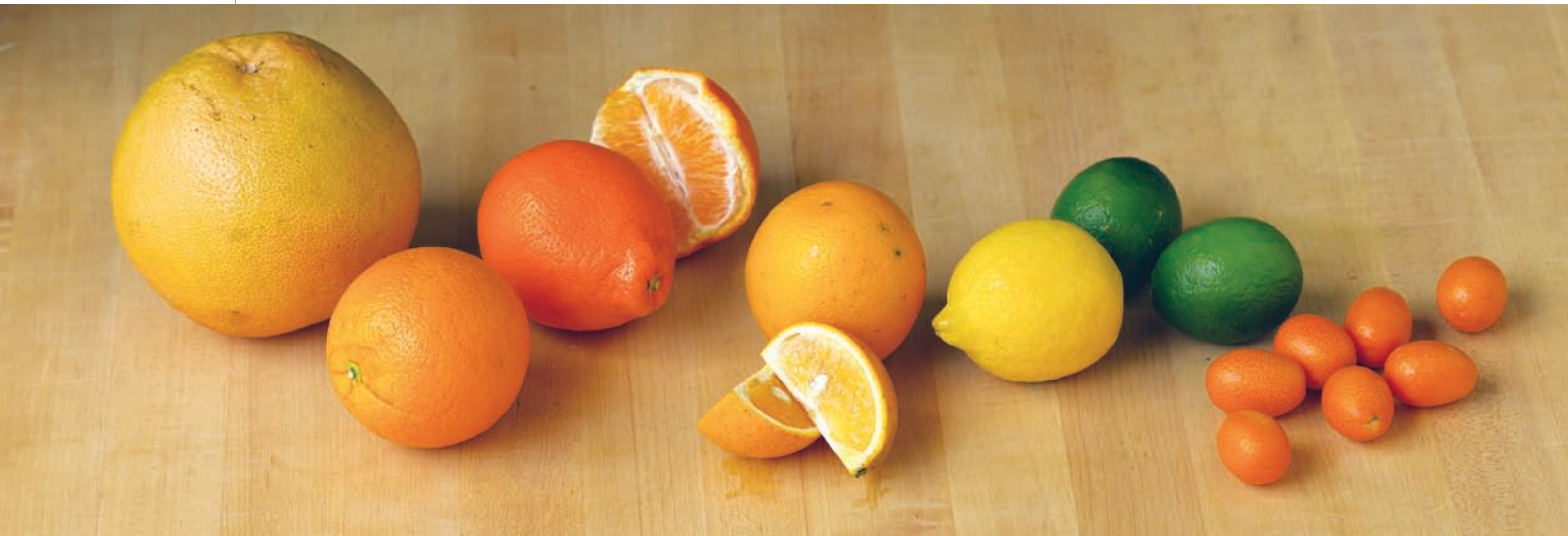
Grapefruits all have yellow skin, sometimes with a rosy blush where the sun hit them. The skin of white grapefruits may have a green blush, and the flesh is pale yellow; seedless varieties are available. Pink grapefruits have yellow skin with a pink blush; the flesh is pink. The skin of red grapefruits has a red blush, and the flesh is deep red with a mellow sweet-tart flavor. Both the pink and red are juiced or eaten fresh.

Kumquats are small, oblong fruits with a golden orange peel. The flesh contains small white seeds. With a sweet-tart peel and tart juicy flesh, kumquats are entirely edible.

Lemons have yellow-green to deep yellow skin and extremely tart flesh; they always have seeds.

Meyer lemons are not true lemons; they are a hybrid that was imported from China, most likely a cross between an orange and a lemon. They are about the size of a large lemon, with smooth skin. Their flesh is a light orange-yellow color, and the juice is sweeter than regular lemon juice.

Oranges come in four basic types: juice, eating, bitter, and mandarin. Juice oranges have smooth skin that is somewhat difficult to peel. They are usually plump and sweet, which makes them ideal for juicing. Eating oranges include the navel, which is large, seedless, and easy to peel. Blood oranges have orange skin with a blush of red. They are aromatic, with pockets of dark red or maroon flesh, and are used for both juice and eating. Bitter



FROM LEFT TO RIGHT: *Grapefruit, navel orange, Minneola tangelo, Valencia orange, lemon, limes, kumquats* oranges are used almost exclusively to make marmalade. Mandarin oranges, a category that includes mandarins, tangerines, and clementines, have loose, relatively thin skins and peel very easily. Mandarins are seedless. Tangerines are juicy with a sweet-tart flavor and usually have many seeds. Clementines have less acid than most oranges and are as fragrant as they are flavorful. Because of their dainty size, they are often featured as a garnish.

Limes have dark green, smooth skin, and flesh that is tart and seedless. Key limes are very small and have light green skin. Their most famous use is in Key lime pie.

MELONS

Melons are fragrant, succulent fruits related to squashes and cucumbers. The four major types of melons are cantaloupes, muskmelons, watermelons, and winter melons (including honeydew, casaba, and Crenshaw).

The ability to determine when a melon is ripe eludes some people. Depending upon the type, you may look for a number of different signs, but aroma and heaviness for size are the best general keys to determining ripeness, regardless of variety.

FROM TOP TO BOTTOM: *Watermelon, cantaloupe, honeydew*

Cantaloupes have coarse netting or veining over their surface and a yellow to buff background color; the stem end should have a smooth mark to show that the melon ripened on the vine. Their flesh is smooth, orange, juicy, and fragrant.

Muskmelons resemble cantaloupes except that they are deeply ridged.

Watermelons are most popular and best known in the large oval variety (15 to 30 lb/6.8 to 13.61 kg), with a light-and-dark-green striped rind and pink flesh. Watermelons, however, come in many different varieties with flesh that may be white, yellow, or pink. All varieties have a thick, hard rind and crisp, granular, juicy (or watery) flesh. They are available in seedless varieties.

Winter melons are a group of melons characterized by their late harvest. Casaba melons have a light yellow to yellow-green skin that becomes smooth and velvety as the melons ripen. Casabas have a rich melon aroma when ripe. Crenshaw melons have very fragrant, salmon-colored flesh and, when ripe, a slight softening near the stem. Honeydew melons are juicy with vivid green flesh; their skin loses any greenish cast and develops a velvety and slightly tacky feel when they are ripe. Persian melons have dark green skin with yellow markings and yellow orange flesh. When ripe, they feel heavy for their size and yield slightly when pressed.

STONE FRUITS

Peaches, nectarines, apricots, plums, and cherries are often referred to as *stone fruits* because they have one large central pit or stone. In North America, they typically come into peak season through the late spring and into summer. Stone fruits need to be handled delicately because their flesh has a tendency to bruise easily. In addition to their fresh form, they are commonly available canned, frozen, and dried.

Apricots have slightly fuzzy skin, like peaches, but are smaller, with somewhat drier flesh. The skin ranges in color from yellow to golden orange, and some have rosy patches.

Cherries come in numerous varieties and many shades of red, from the light crimson Queen Anne to the almost black Bing; some are yellow or golden, such as Royal Ann. They vary in texture from firm and crisp to soft and juicy, and flavors run the gamut from sweet to sour. Cherries can be found fresh throughout their growing season, and they are also sold canned, dried, candied, or frozen, and as prepared fillings for Danish, pies, and other pastries. Cherry syrups and cherry-flavored cordials are also available; kirschwasser, a clear cherry cordial, is often used in bakeshops and kitchens.

Nectarines are similar in shape, color, and flavor to peaches, but they have smooth skin. Like peaches, they are classified as either clingstone or freestone; some varieties have flesh with a texture similar to that of plums.

Peaches are sweet and juicy, with a distinctive fuzzy skin. They come in many varieties, but all peaches fall into one of two categories: clingstone or freestone. Clingstone peaches have flesh that clings to the pit, whereas the flesh of freestone peaches separates easily. Depending on the variety, peach flesh ranges from white to creamy yellow to yellow-orange to red, with a whole host of combinations possible.

Plums can be as small as an apricot or as large as a peach. When ripe, they are sweet and juicy, and some have tart skins that contrast nicely with their succulent flesh. Greengage plums, with green skin and flesh, are a popular dessert variety. Santa Rosa plums are red with light yellow flesh. Black Friar plums have dark purple skins with a silvery bloom and deep red to purple flesh. Damson plums, the best-known cooking plums, have purple skin with a silver-blue bloom. Prune plums, also called *Italian plums*, are small, with purple skin and green flesh that is relatively dry and separates cleanly from the pit; they are eaten fresh and dried as prunes, now sometimes called *dried plums*.

BY ROW, FROM LEFT TO RIGHT AND TOP TO BOTTOM: *Nectarines, white peach, black plum, red plum, apricots, cherries, Rainier cherries, sour cherries*

CLOCKWISE FROM TOP: *Pineapple, banana, kiwi, passion fruit, coconut, papaya, mango*

EXOTIC OR TROPICAL FRUITS

A wide variety of fruits fall into this category, most of which are grown in tropical regions: figs, guavas, kiwis, mangoes, papayas, pineapples, plantains, pomegranates, passion fruit, and star fruit. An ever-increasing number of exotic fruits are available through regular and specialty outlets.

Bananas, unlike most fruits, are usually picked green and allowed to ripen en route to the buyer. When ripe, they have a firm yellow skin and a few black spots. The flesh is soft and creamy white.

Guavas are round to oblong-shaped fruits with light green to yellow edible skin. The flesh usually ranges in color from white to yellow but may even be salmon or red. It contains tiny edible seeds.

Kiwis are small oval fruits with brownish hairy skin. The flesh is bright green or golden, with small edible black seeds and a citrus-like flavor.

Lychees are small, round fruits with a thin, bumpy red-to-brown skin and a single large seed. The flesh is gray-white and translucent, with a grape-like texture and a sweet grape-cherry flavor.

Mangoes are round to oval fruits with red to orange-yellow skin that may be tinged with green. They are very juicy and sweet, with an intense and aromatic aroma. The yellow-orange flesh surrounds a large flat seed.

Papayas are pear-shaped fruits with smooth yellow-orange to green skin. The juicy, yellow-orange flesh, which has a melon-peach flavor, surrounds a cluster of small black seeds in the center of the fruit.

Passion fruits are round or egg-shaped fruits with leathery, purple-brown skin. The pulp has a jelly-like consistency and contains many seeds. The pulp and crunchy edible seeds have a sweet-tart, lemony flavor.

Persimmons commonly come in two types, both about the size of a baseball. The Fuyu persimmon has a round, slightly flattened shape, with pale orange to brilliant red-orange skin. Its orange flesh is crisp, with a sweet, mild flavor. The Hachiya persimmon is heart-shaped, with brilliant orange-red skin. Its soft, orange flesh has a sweet, spicy flavor. The Hachiya is very astringent when not completely ripe.

Pomegranates are round and about the size of a grapefruit. The red skin has a leathery texture. Under the skin, thin white membranes encase edible crimson-colored seeds that have a crisp texture and tangy-sweet flavor.

Star fruits (or carambola) are egg-shaped fruits with deep chevron ridges that result in a star shape when the fruit is sliced crosswise. The skin is yellow, smooth, and edible. The juicy, crisp, pale yellow flesh has a sweet-tart flavor and contains only a few seeds.

3

EQUIPMENT IDENTIFICATION

Just as an artist learns to master all the instruments necessary for painting, sculpting, or drawing, bakers and pastry chefs learn to master a variety of small tools and large equipment. These devices are as important as your own fingers—quite literally an extension of your hands. Tools and equipment of all sorts represent one of the biggest investments in the bakeshop or kitchen.

KOREA

SCALING AND MEASURING TOOLS

IN BAKING, EVEN more so than in cooking, precise measurement of ingredients is vital to the success of the product. Precise measurements are crucial both to keep costs in line and to ensure consistency of quality and quantity. Measurements are taken of weight, volume, temperature, distance or length, and density.

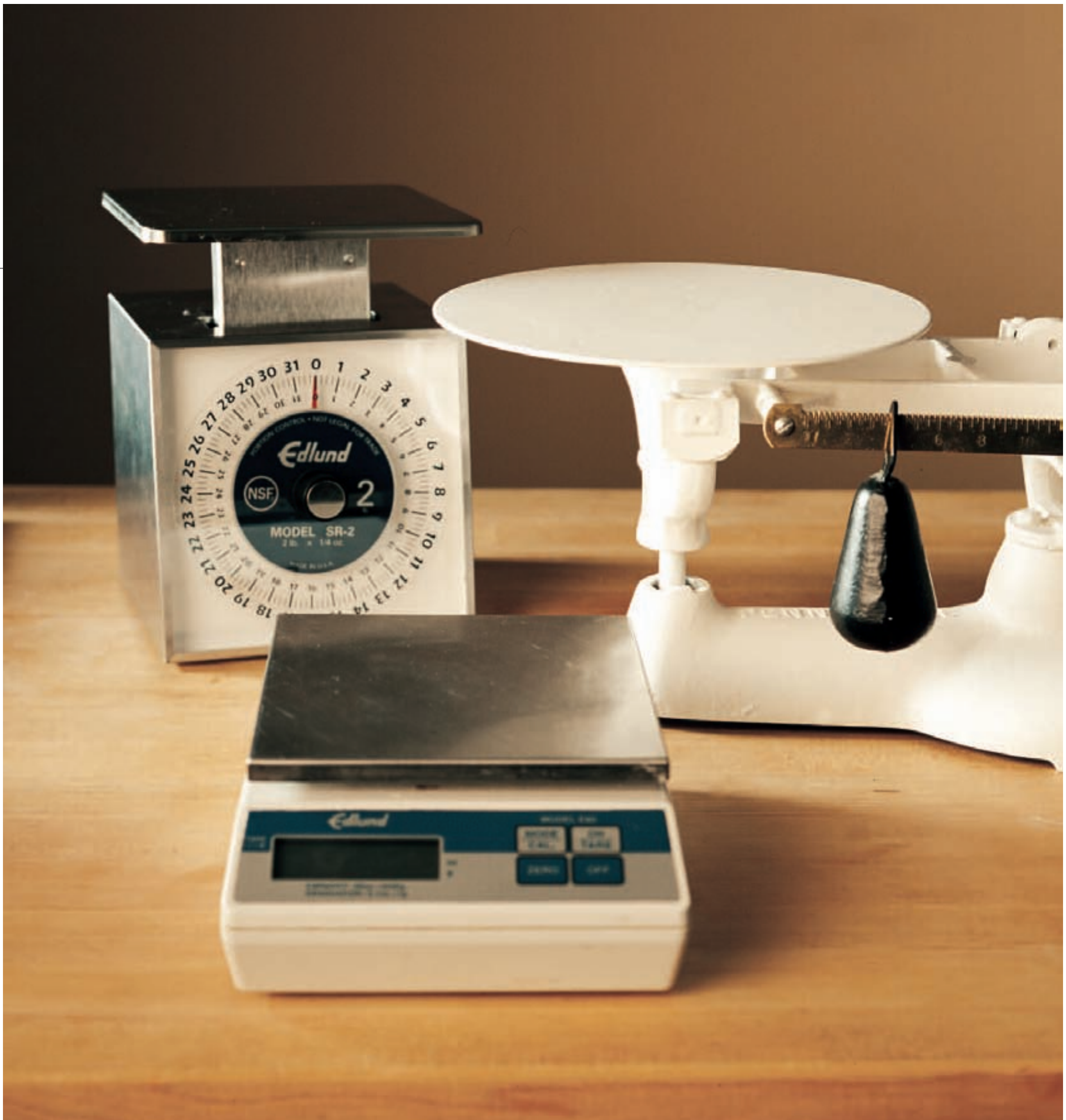
SCALES

Scales must be used correctly to be effective. You want the weight of only the ingredient, not the ingredient and the container holding it. Before using any scale, you must take certain steps to account for the weight of containers. This process is known as *setting a scale to tare* or setting it to zero.

Beam balance (or **baker's**) **scales** have two platforms attached on either end of a beam. The point where the beam and the base meet is the fulcrum. At the front of the scale, a weight hangs from a bar notched at 1-oz/30-g increments. To tare, set the container on the scale, and reset the scale so that both sides are level, either by manipulating the weight on the front of the scale or by adding a counterweight to the other side of the scale.

To weigh out an ingredient, slide the hanging weight to the correct notch. To find an ingredient's weight, move the hanging weight until the platforms are level. To set the scale to zero, make sure that the two platforms are level. Beam balances can measure quantities far greater than the maximum weight shown on the scale if counterweights (typically available in 1-, 2-, and 4-lb/450-g, 910-g, and 1.81-kg weights) are used. To use a counterweight, set the weight on the right platform, then add enough of the ingredient to the left platform to make the two platforms level.

Digital scale (front), beam-balance or baker's balance (middle), and spring scales (rear) are the three basic types of scales used in bakeshops and pastry kitchens.

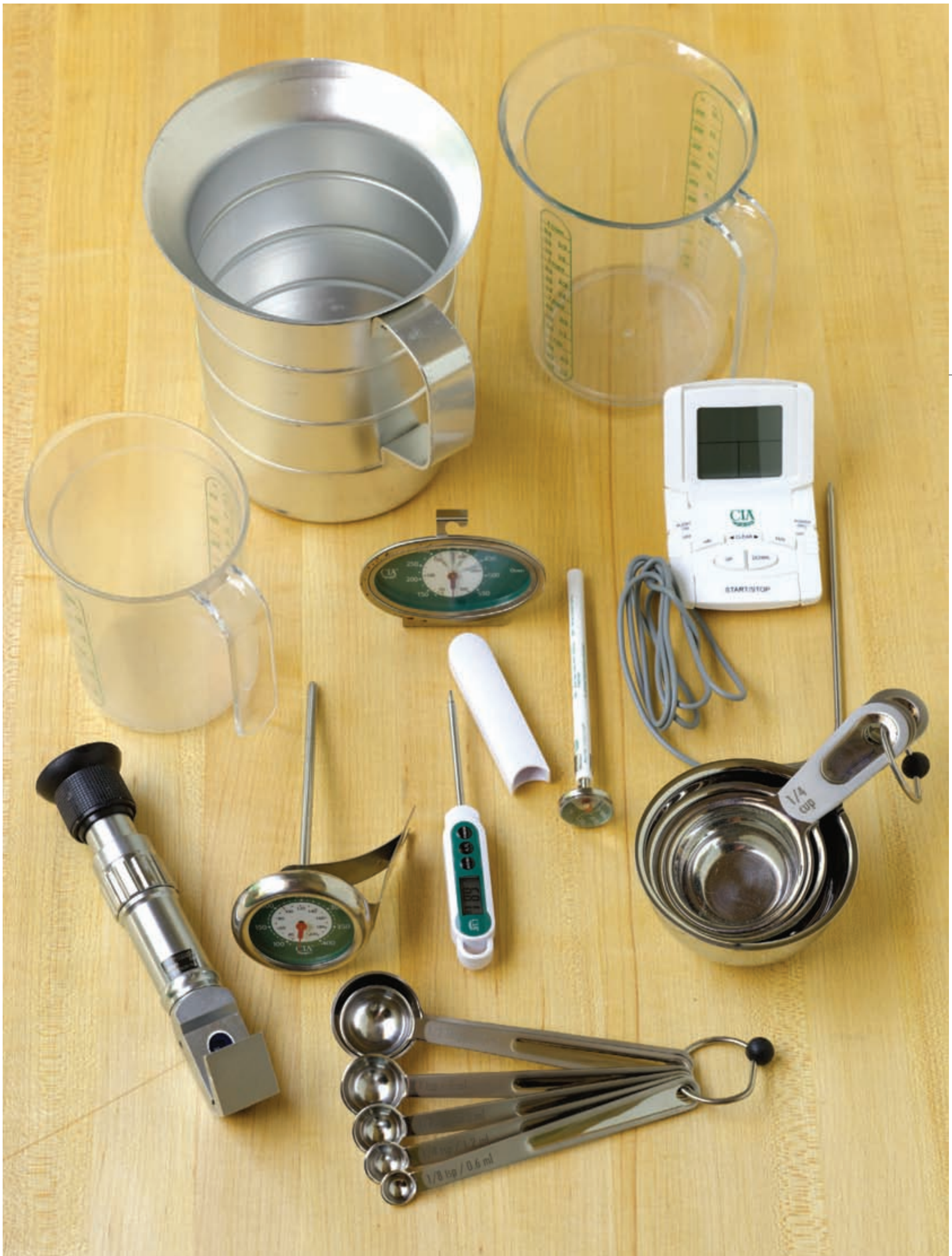


Spring scales have a platform set on top of a pedestal that contains a spring mechanism for weighing and a dial indicator on the front. To tare a spring scale, place the container for measuring the ingredients on the scale and turn the dial so that the pointer or arrow is aligned with zero. Spring scales are designed to read in any number of increments. Some are very sensitive and can measure small amounts, while others are made so that they only measure in large increments.

Digital scales have a stainless-steel platform set on an electronic base with a digital display. Scales capable of measuring very small amounts typically have a smaller total capacity. Scales capable of weighing large amounts (more than 4 lb/1.81 kg) are less sensitive when measuring small amounts. To tare a digital scale, you press a button to reset the scale to zero. Most digital scales can switch between metric and U.S. standard weight systems.

VOLUME MEASURES

Graduated pitchers or **beakers** and **measuring cups** and **spoons** are commonly used in the bakeshop to measure liquids and pourable ingredients



CLOCKWISE FROM TOP: *Graduated liquid measuring cups, probe thermometer, volume measuring cups, measuring spoons, refractometer, candy thermometer, digital instant-read thermometer, dial instant-read thermometer, oven thermometer* (eggs, molasses, or corn syrup, for example). Pitchers and cups are scaled off with lines or markings to show varying measures. Clear pitchers and cups are easy to fill accurately. For the most accurate results, use the smallest measure possible to measure ingredients, place the vessel on a level surface, and bend down to take the reading at eye level.

Dry measuring cups are commonly used in recipes written for the home baker. In the bakeshop, they are used to measure small amounts of certain dry ingredients, such as salt, spices, and baking soda. To use measuring cups and spoons for dry ingredients, overfill the measure, then use a straightedge to scrape the excess away; the ingredient should fill the measure evenly up to the rim.

THERMOMETERS

Any bakeshop should have thermometers capable of measuring accurately over a wide range of temperatures.

Instant-read thermometers are available with both dial and digital readouts.

Digital thermometers typically measure a wider range of temperatures more accurately than dial-type thermometers can, and they are usually more accurate when measuring shallow liquids.

Stem-type thermometers are excellent for checking the internal temperature of products such as doughs or custards; they can also be used to check the temperature of liquids. These thermometers consist of a long stem with a digital or dial head that indicates the temperature.

Probe thermometers consist of a plastic digital readout base with a metal probe on the end of a cable; some have an alarm to indicate that a specific temperature has been reached.

Candy (or **sugar** or **deep-fat**) **thermometers** may be calibrated in degrees only; others also indicate the most commonly used temperatures for sugar cooking (such as thread, soft ball, and hard crack). Candy thermometers should register from 100° to 400°F/38° to 204°C and should be able to withstand temperatures up to 500°F/260°C.

To check a thermometer's accuracy, let it stand for 10 minutes in boiling water. It should read 212°F/100°C. If there is any discrepancy, subtract or add the correct number of degrees to make up for the difference when using the thermometer.

CUTTING TOOLS

ALL CUTTING TOOLS work best when they are properly maintained. A sharp tool not only performs better but is safer to use. Learn to sharpen knives with a stone and a steel so that you can maintain them yourself. Have severely dulled or damaged tools professionally reground to restore the edge.

Some tools cannot be sharpened. Handle them carefully to extend their useful lives, and replace them when they become difficult to use safely.

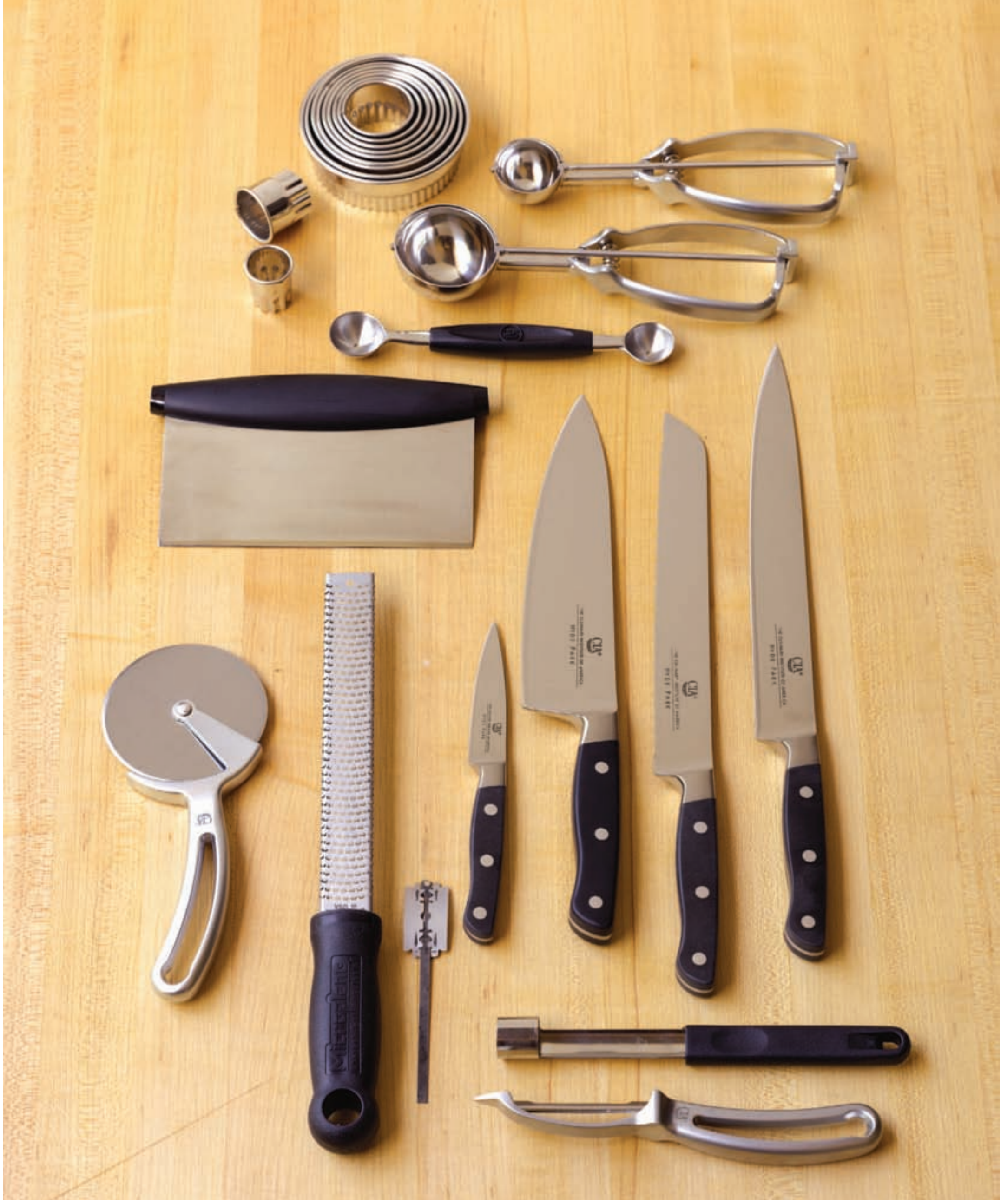
KNIVES

Keeping knives clean helps to extend their lives. Clean knives thoroughly immediately after using them with soap and hot water. Sanitize the entire knife, including the handle, bolster, and blade, as necessary, so that it will not cross contaminate food. Dry knives carefully before storing them or using them again.

Keep knives properly stored when not in use. There are a number of safe, practical ways to store knives, including knife kits or rolls for one's personal collection and slots, racks, and magnetized holders in the kitchen. Storage arrangements should be kept just as clean as knives.

Cloth or vinyl rolls should be washed and sanitized periodically. (For more information on care and maintenance of knives, see *In the Hands of a Chef* from The Culinary Institute of America.)

Always use an appropriate cutting surface. Wooden or composition cutting boards are best. Cutting on metal, glass, or marble surfaces will dull and eventually damage the blade of a knife.



TOP TO BOTTOM AND LEFT TO RIGHT: *Ring cutters, scoops, Parisian scoop, bench knife, pastry wheel, Microplane, lame, paring knife, chef knife, serrated knife, slicing knife, corer, peeler*

To pass a knife safely to someone, present it with the handle toward the other person. Whenever you carry a knife from one area of the kitchen to another, hold the blade point down, with the sharpened edge facing you. Ideally, you should sheathe or wrap the knife before walking anywhere with it, or put it in a carrier.

When you lay a knife down on a work surface, be sure that no part of it extends over the edge of the cutting board or worktable. Also, be sure the blade is facing away from the edge of the work surface. Finally, never try to catch a falling knife.

A basic knife collection includes four essential knives: a chef's or French knife, a utility knife, a paring knife, and a slicer. You might also have a number of special knives and cutting tools for specific purposes.

TYPES OF KNIVES

Chef's or **French knives** are all-purpose knives used for a variety of chopping, slicing, and mincing tasks. The blade is usually 8 to 14 in/20 to 36 cm long with a straight edge. Look for a high-carbon stainless-steel blade, a full tang (the continuation of the blade that extends into the knife's handle), good balance, and a handle that fits your hand comfortably.

Utility knives are similar to chef's knives except that they are smaller and lighter, and are used for light cutting chores. Their blades are generally 5 to 7 in/13 to 18 cm long.

A **paring knife** is a short knife used for peeling and trimming vegetables and fruits. The blades are 2 to 4 in/5 to 10 cm long, and they come in a number of shapes: pointed, bird beak, tourné, and sheep's foot.

Slicers are used to slice breads, cakes, and pastries. Some slicers have offset handles. Their blades are long and thin and can range in length from 8 to 12 in/20 to 30 cm. They also have a variety of edges. Bread knives and other serrated slicers are excellent for slicing foods with a relatively spongy texture, such as most breads and some cakes; the "teeth" saw through the crumb without tearing or pulling. Slicing blades with straight edges are used to slice delicate pastries and cakes. Straight-edge slicing knives (typically 10 to 12 in/25 to 30 cm long) are also useful for icing and decorating.

OTHER SMALL TOOLS

THERE ARE NUMEROUS small tools for specialized use in the professional bakery or pastry shop; here we have listed a sampling.

GRATERS, ZESTERS, AND RASPS

Graters are made of metal perforated with openings that shred away pieces of an ingredient. The openings range in size from very small for grating nutmeg to large for grating moister foods that might otherwise fall apart. Some graters are flat, others have a curved surface. A box grater has at least two grating faces and can usually perform a variety of grating and, often, some slicing tasks.

A **citrus zester** is a small hand tool consisting of a metal head with a row of small round holes, attached to a handle. As the head is passed over the citrus fruit, the cutting edges remove the outer layer of colored zest but leave behind the bitter white pith. You can also use a swivel-bladed peeler to cut away thin slices from the skin or a grater with small openings instead of a zester.

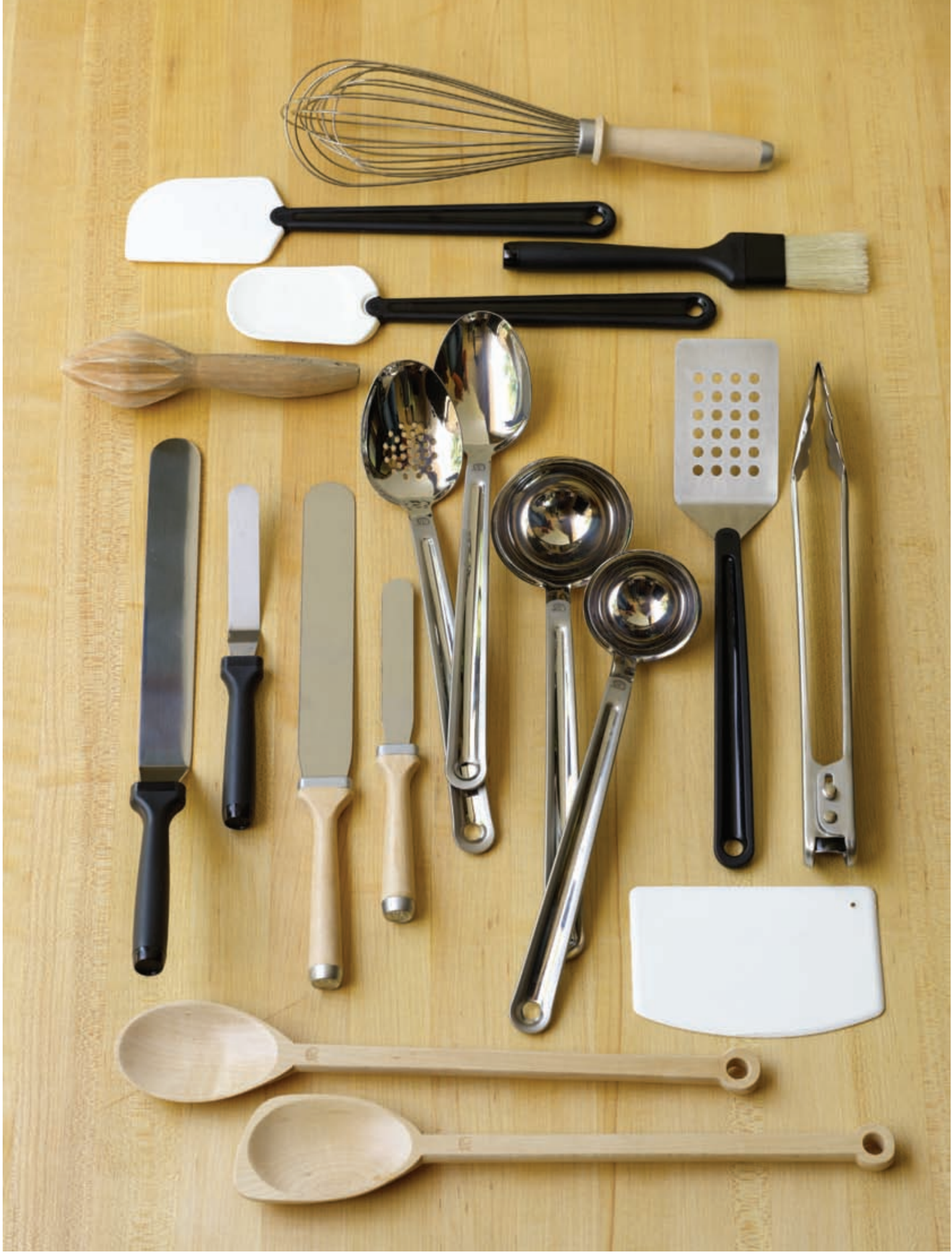
A **rasp** is a long (approximately 12 in/30 cm) flat piece of stainless steel with perforations, well suited for zesting as well as finely grating chocolate and hard cheeses. Some rasps have handles, and perforation sizes range from very fine to rather coarse.

PEELERS, REAMERS, AND CORERS

Swivel-bladed peelers remove thin layers of skin (or zest) from fruits and vegetables. They are available in a number of different styles.

A **lemon reamer** is a conical tool, 6 to 6½ in/15 to 16.5 cm long, with deep ridges and a handle, that is used for extracting the juice from small citrus fruits such as lemons. Reamers are traditionally made of nonporous wood, but they are now also available in metal or plastic.

An **apple corer** may be a hand tool or a mechanical device. A manual corer has a stainless-steel cylinder ⅝ in/1.5 cm diameter with a sawtooth end for cutting into the fruit. Corers are usually 6½ in/16.5 cm long. A mechanical corer offers greater efficiency and speed. This device has an arm with three prongs that are inserted into the apple, fixing it on a crank handle that drills it into a cylindrical blade that extracts the core. These corers can simultaneously peel the apples with a small sharp blade as they are rotated.



TOP TO BOTTOM AND LEFT TO RIGHT: *Whisk, rubber spatulas, pastry brush, citrus reamer, large offset spatula, small offset spatula, large straight spatula, small straight spatula, pierced stainless steel spoon, stainless steel spoon, ladles, spatula, tongs, bowl scraper, wooden spoons*

SPOONS AND TONGS

Spoons for use in the kitchen may be made of metal, wood, or composite materials. Some spoons have deep bowls; others are flat, more like a paddle. Slotted or perforated spoons are used to lift foods out of liquids.

Wooden spoons and paddles are made of unfinished tight-grained woods. Wood does not conduct or transfer heat well, so there is no threat of burning your fingers or changing critical temperatures of mixtures. Hardwoods are less likely than soft woods to pick up flavors and stains from food; they are also less likely to split or crack.

Spiders and **skimmers** operate on a similar principle as slotted spoons, but are very wide and quite flat, and have very long handles.

Paddles are used in chocolate and confection work. They scrape clean easily, making it easier to work with mixtures that require careful blending and temperature control, such as chocolate.

Tongs act as an extension of your thumb and forefinger to lift, turn, and transfer hot food or other objects. They have two metal arms that are hinged together and spring loaded. Some versions can be locked closed. Tongs range in size from 8 to 18 in/20 to 46 cm long.

WHIPS

Whips, also called **whisks**, are made from a number of thin wires bound together with a handle. In most whips, the wires are bent to make a closed loop. Whips are used to blend or whisk ingredients, to loosen and evenly distribute ingredients, and to make foams such as whipped cream or meringue. Handheld whips may have as few as two wires or as many as twenty. Balloon whips are sphere shaped and have thin wires to incorporate air for making foams. Flat whips often have thicker wires. The thickness of the wires on a whip determines its flexibility and function. Whips range from 10 to 16 in/25 to 41 cm in length.

SPATULAS AND SCRAPERS

Rubber spatulas are used to scrape mixtures from bowls and into baking pans or other containers, to push foods through sieves, to fold ingredients together, and to spread batters and fillings into even layers. These hand tools have a flexible head of synthetic rubber, silicone, or similar material on the end of a handle. The head is shaped for a specific function and may be narrow or broad, with a pointed, angled, or blunt tip. Spatulas made from high-temperature-resistant synthetic rubber or silicone can be used to stir and blend ingredients over direct heat, up to 600°F/316°C. Spatulas range in length from 10 in/25 cm to slightly longer than 20 in/51 cm.

Plastic bowl scrapers are like the head of a rubber spatula without a handle. They may be rounded on one side, and are efficient for scraping bowls completely clean, leaving no waste. Clean, sanitize, and air-dry rubber spatulas and bowl scrapers, either in a ware-washing machine or by hand.

Metal spatulas look something like knives. They have long metal blades, although the edge of the blade is not sharp, and typically have blunt, rounded ends. Baking spatulas have blunt ends and are made of thinner metal than knives. The handles can be made of polypropylene or wood. The length of the spatulas may range from 4 to 14 in/10 to 36 cm and the handle can be straight or offset. The offset handle is angled so that the blade is about ½ in/1 cm below the handle. Metal spatulas are sometimes referred to as *palette knives*.

SCOOPS AND LADLES

Scoops have bowls of varying sizes attached to handles. Some scoops have a spring-operated mechanism that pushes batters, ice creams, or other preparations cleanly from the bowl, making it easy to scale them consistently during production or service.

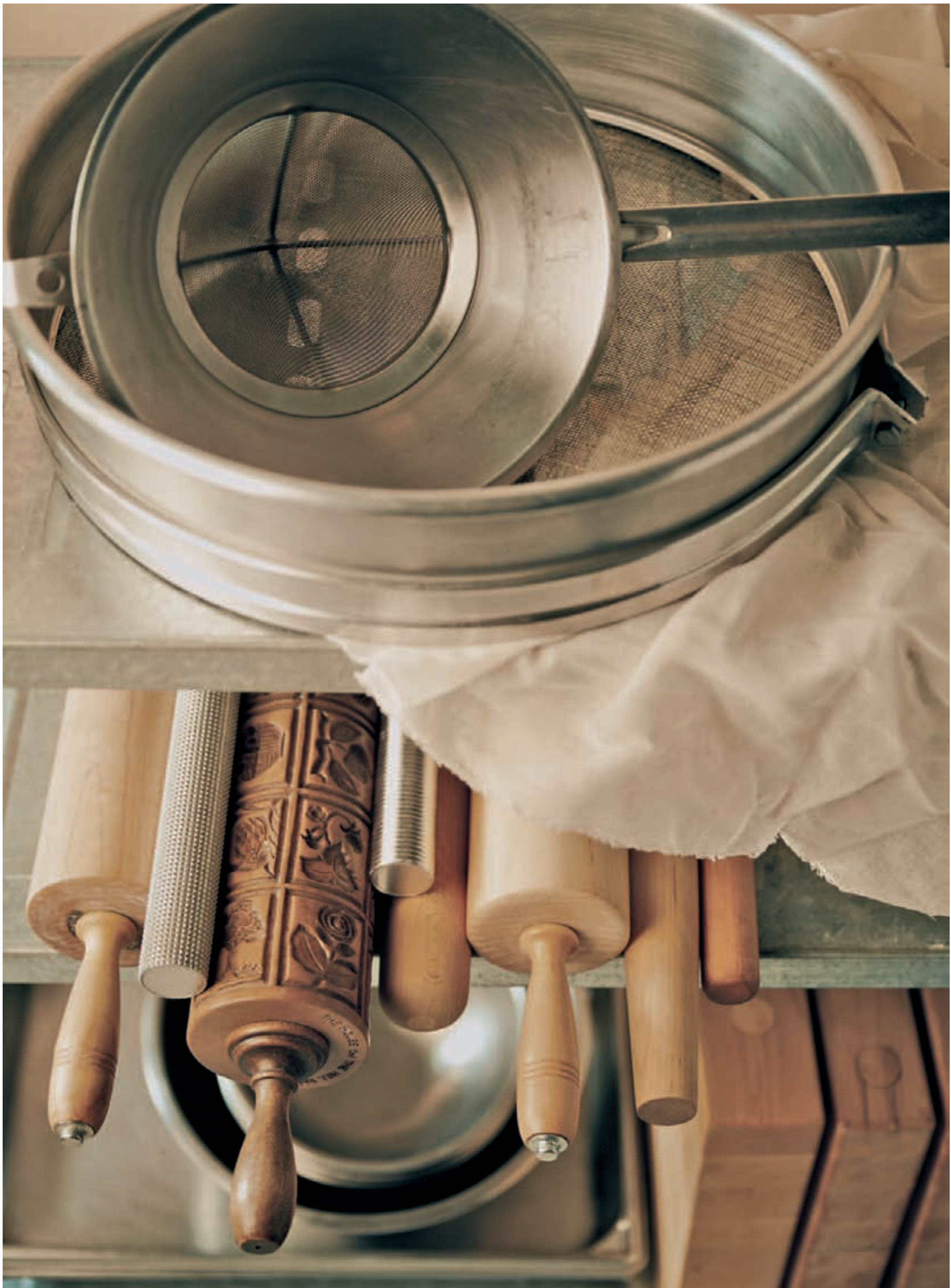
Melon ballers, also called *Parisian scoops*, may be round or oval, with straight or fluted edges. The scoop is twisted into the food to make a perfect ball or oval. They are most typically used to portion melon or other ingredients, such as ganache, that are soft enough to scoop but firm enough to hold their shape.

Ladles are used for portioning as well as for measuring pourable ingredients or mixtures such as sauces. The bowl of the ladle holds a specific volume, ranging from 1 fl oz/30 mL to 12 fl oz/360 mL. The bowl is attached to a long handle; some ladles are one piece, while the handles of others are a separate piece of metal attached to the bowl. Ladles with a 45-degree angle between the bowl and the handle work best in most instances.

HAND TOOLS FOR SIFTING, STRAINING, AND PURÉEING

Sieves and **strainers** are used to sift and aerate dry ingredients, as well as to remove any large impurities from them. They are also used to drain or purée cooked or raw foods. Sieves and strainers are produced in a range of sizes to accommodate a variety of tasks. Some are small enough to dust a napoleon with confectioners' sugar, while others are large enough to strain several quarts of ice cream base. Strainers should be made of a heat-resistant material so that hot liquids can be strained immediately upon removal from the stovetop.

A drum sieve (sometimes called a *tamis*) consists of a tinned-steel, nylon, or stainless-steel screen stretched over an aluminum or wood frame. Drum sieves are used for sifting or puréeing. A *champignon* (mushroom-shaped pestle) or a rigid plastic scraper is used to push the food through



Sifting, Straining, Puréeing, and Pastry Tools.

TOP ROW: *Very-fine-mesh strainer, drum sieve, cheesecloth*

MIDDLE ROW, LEFT TO RIGHT: *Rod-and-bearing rolling pin, textured aluminum French-style rolling pin, springerle rolling pin, aluminum French-style rolling pin with a different texture, straight wood rolling pin, rod-and-bearing rolling pin, tapered French rolling pin, and small straight wooden rolling pins*

BOTTOM ROW: *Mixing bowls, hotel pans, and cutting boards* the screen. Conical sieves are used for straining and puréeing foods. The openings in the cone can be of varying sizes, from very large to very small, and depending on the size of the openings can be made of either perforated metal or a mesh screen. A fine-mesh conical sieve is also known as a *bouillon strainer*. A pointed pestle is effective for pushing the ingredient or product through the mesh.

Colanders are stainless-steel, aluminum, or plastic bowls pierced with holes, used for straining or draining foods. Colanders are available in a variety of sizes. Some have loop handles and others have single handles; they may have feet or a round base.

A **food mill** has a curved blade that is rotated over a perforated disk by a hand-operated crank. Most professional models have interchangeable disks with holes of varying fineness. An exception is the Foley food mill, which has a fixed mesh disk. (Note: Many mixing machines can be used as food mills with attachments that allow them to strain and purée foods.)

Cheesecloth is a light, fine-mesh cotton gauze frequently used along with or in place of a fine conical sieve to strain very fine sauces and similar items. It is also used for making sachets. Before use, cheesecloth should be rinsed thoroughly in hot and then cold water to remove any loose fibers. Cheesecloth also clings better to the sides of bowls, sieves, and the like when it is wet. Drape the wet cheesecloth in the bowl or colander and pour the liquid through it.

TOOLS FOR BREAD BAKING

A **lame** is a thin-arced razor blade clamped into a small stainless-steel, wooden, or plastic handle. This specialized tool is used to score proofed yeast breads and rolls before they are baked. The blade must be very sharp and used in swift angled motions to create clean slices without pulling or tearing the dough.

A **bench knife** has a thin, stiff rectangular steel blade set in a wooden or plastic handle to make it easy to grip and use. The blade, which is usually 6 in/15 cm wide, has no sharpened edges, making it useful for scraping, lifting, folding, and cutting dough.

A **couche,** or heavy linen cloth, is used for proofing baguettes. The shaped dough is arranged in the folds of the cloth and left to proof; the folds and the fabric itself help to preserve the shape of the dough and keep it moist.

Loaf pans, or tins, are oblong or rectangular pans used to bake pound cakes, other loaf cakes, and quick breads, as well as loaves of yeast-raised bread. They are made of glass or metal, with or without a nonstick coating. They are available in a wide range of sizes from large to mini. A Pullman loaf pan has a sliding cover and is used to prepare perfectly square finely grained slicing loaves (also known as *pain de mie*). The pans are typically made of tinned steel. A pan for a 1½-lb/680-g loaf is 4¼ in/11 cm wide by 13 in/33 cm long by 4 in/10 cm deep, and a pan for a 2-lb/910-g loaf is 4 by 16 by 4 in/10 by 41 by 10 cm.

Bannetons, or dough-rising baskets (or *brotformen*), are round or oblong straw or willow baskets used for proofing, molding, and shaping bread. Some are lined with linen.

Peels are large flat wooden paddles designed for transferring doughs onto the deck of an oven. To use a peel, sprinkle it with cornmeal before loading the dough onto it. Use a quick jerking motion to slide the dough off the peel onto the deck of the oven.

TOOLS FOR PASTRIES AND COOKIES

Rolling pins are used to flatten and thin doughs such as yeasted bread, pastry, tart, and cookie doughs, puff pastry, and marzipan. They may be made of wood, metal, marble, or synthetic materials. Some pins have a smooth surface; others are textured or engraved to leave an impression of a pattern or picture on the dough. The task at hand will dictate the type of pin best suited for the job.

Clean and dry rolling pins thoroughly immediately after use. Don't soak wooden pins for extended periods. Pins made of porous materials such as wood may absorb the taste of soaps and detergents and transfer them to delicate doughs, so use only warm water and rub with a soft cloth to clean them.

Rod-and-bearing rolling pins consist of a cylinder made of hardwood with a steel rod inserted through the middle, which is fixed with ball bearings and handles at either end. These heavy pins are used to roll large amounts of stiff doughs. They are available in lengths up to 18 in/46 cm. Pins of this style are also available with a cylinder made of stainless steel or marble. These materials remain cool during rolling, which helps to keep pastry doughs at the proper working temperature.

Straight or French rolling pins are straight thick dowels. They were traditionally made of hardwood and now are also available in nylon and aluminum. These pins are typically 1¼ in/3 cm to 2 in/5 cm in diameter and 18 to 20 in/46 to 51 cm long. Because they don't have handles, they allow the baker or pastry chef to more easily feel the evenness and thickness of the dough while rolling it out.

Tapered or French rolling pins are thicker in the center, tapering evenly to both ends. They are usually about 2¾ in/7 cm in diameter at the center and 22 in/56 cm long. Their tapered design makes them most useful for rolling circles of dough to line pie and tart pans.

Marzipan and basket-weave rolling pins have a patterned surface to create impressions on marzipan used for décor. These pins are made as rod-and-bearing pins or simply as plain cylinders made of nylon or plastic.

Springerle rolling pins are made of wood or plastic resin. They have ornate and intricate pictures or designs in relief, and are traditionally used to imprint springerle or gingerbread cookie doughs before baking. Springerle plaques are also available; the plaque is simply pressed into the rolled dough to imprint it before baking.

Cookie cutters are used to stamp out individual cookies from rolled doughs. They are made of thin sheet metal (tin, stainless steel, or copper) or plastic that has been molded or formed into shapes (circles, squares, hearts, animals, and so on). The cutting edges must be even and sharp enough to slice through the dough cleanly, and the cutters should be easy to grip.

A **dough docker** has a handle attached to a roller studded with 1- to 2-in/3- to 5-cm rounded spikes of metal or plastic. The docker is used to quickly and cleanly pierce air holes in rolled sheets of dough before baking blind (see "Blind Baking Pie and Tart Shells" in Chapter 15, page 623).

Pastry brushes may be made of soft, flexible nylon or unbleached hog bristles. The bristles are blunt cut and 2½ in/6 cm long; the brushes come in a variety of widths for various tasks. They should be washed and air-dried after each use.

A **pastry wheel** has a very sharp round nickel-plated blade, attached to a handle so that it rotates as it is pushed over rolled dough, making long, smooth, continuous cuts. The diameter of the wheel can range from 2 in/5 cm (for cutting thinner doughs) to 5 in/13 cm (for very thick doughs). The wheels may have straight or fluted edges.

TOOLS FOR DÉCOR WORK

Pastry bags are available in various sizes. Many bakeshops and pastry kitchens have turned to disposable bags to prevent cross contamination and food-borne illness. Wash reusable bags, which are usually made of nylon or plastic-coated fabric, with plenty of hot water and enough soap to thoroughly degrease them. Rinse them well and air-dry completely before using again or storing.

Piping tips are generally made of nickel-plated metal and are stamped with a numerical identification code. Although there are no industry-wide standards when it comes to numbering conventions for pastry tips, the numbers do have a relationship to the diameter of the tip's opening: the bigger the number, the larger the opening. Tips may have round, oval, star, or other-shaped openings. The differences in shape and diameter permit the pastry chef to apply a wide range of both simple and complex décor to cakes and pastries.

Parchment paper cones may be used for the same type of work as pastry bags and tips. Parchment paper can be purchased already cut into triangles for rolling into cones, or pastry chefs may cut their own from sheets of parchment. The size of the cone depends on the size of the parchment triangle. Cones may be rolled leaving the desired size of opening for piping, or the opening may be cut with scissors after the cone is tightly rolled. Different sizes and shapes of openings may be cut to yield a wide range of décor.

Cake and decorating combs are used to make designs by creating a pattern of lines in the icing coating a cake or pastry. They have teeth with different shapes and sizes. A cake comb is a thin triangle of stainless steel or plastic with different-size-tooth grooves on each side. Rubber decorating combs have stainless-steel frames to which the combs are attached for use.

Wire cooling racks are grates made of heavy-gauge chrome-plated steel wire. They have feet that raise them above the counter so that moisture does not collect under cooling baked goods. These racks can also be used for glazing and confectionery work, as they allow the excess glaze or chocolate to run off freely rather than pooling around the base of the confection, pastry, or cake.

Turntables for cake decorating consist of a pedestal topped with a round platform 12 in/30 cm in diameter to hold the cake or pastry as you work. The turntable can be rotated around the rod in the center of the pedestal. Some chefs prefer instead to set cakes on cardboard circles (also called *cake circles*), which they balance on their fingertips and then gently rotate as they work; this method allows you to keep the cake at eye level while you work, but it does require a bit of coordination.

TOOLS FOR CONFECTIONERY AND DÉCOR WORK

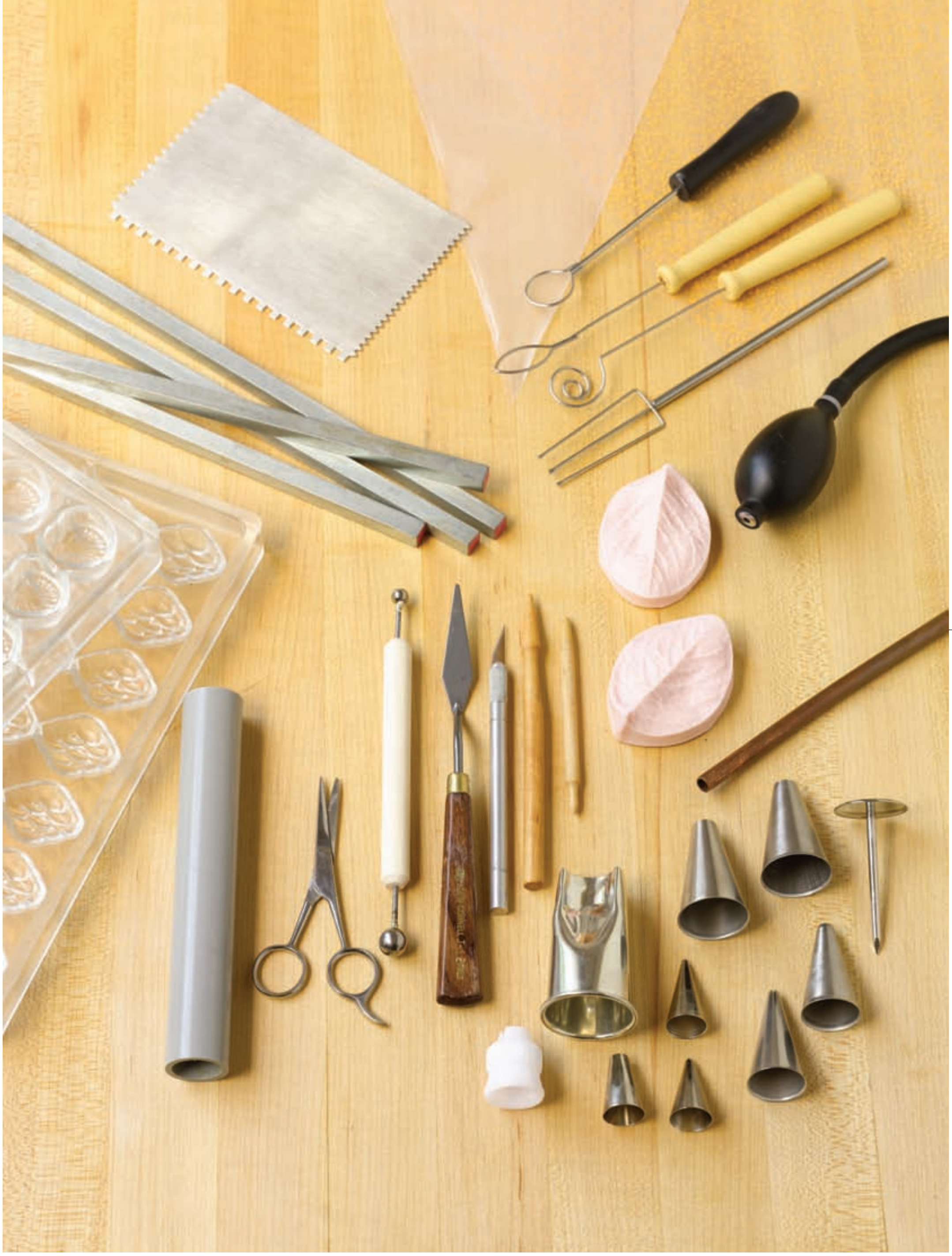
CONFECTIONERY TOOLS

A **heavy copper pot** with a pour spout is very useful for sugar cooking. These pots are available in 5-in/13-cm (holding 24 fl oz/720 mL), 6¼-in/16.5-cm (holding 50 fl oz/1.5 L), and 8-in/20-cm (holding 3 qt/2.88 L) diameters. Copper is preferred for sugar cooking because it conducts heat evenly.

A **fondant funnel** is a metal or plastic funnel with a manually operated valve at the small opening. These funnels generally have a 1- or 2-qt/960-mL or 1.92-L capacity. They are useful for filling chocolates, making candies, and portioning sauces.

Chocolate molds are used for making figures, such as an Easter bunny, and for making filled chocolates. Clear rigid polycarbonate plastic molds are easier to care for and use than vacuum plastic molds or tin chocolate molds. However, vacuum plastic molds are relatively inexpensive. Tin molds may be both more elaborate and durable, but they must be thoroughly cleaned and dried to prevent rusting (see "Molding Chocolates" in Chapter 21, pages 916–918, for more about working with chocolate molds).

Dipping tools include a variety of hand tools consisting of stainless- or nickel-plated steel prongs or loops fastened into wooden or plastic handles.



CLOCKWISE FROM TOP: *Disposable pastry bag, chocolate dipping utensils, blown sugar pump, silicone leaf molds for sugar work, rose pin, pastry tips, coupler, assorted tools for gum paste work, palette knife for décor work, ball tool for gum paste work, scissors, PVC rolling pin for gum paste, chocolate molds, caramel bars, cake comb*

They are designed for dipping any nut, fruit, or ganache or candy into a chocolate, syrup, or fondant coating.

Chocolate cutters are made of strong tinned steel or a fiberglass and plastic composite. They range from ¼ in/0.6 cm to 1½ in/4 cm in diameter and up to 1 in/3 cm in height. The cutting edges are very sharp. Cutters are often crafted and include animal, geometric, and floral shapes, and more. They are sold individually or in sets that can include as many as seventy-four pieces.

Caramel bars, also called *confectioners' rulers*, are metal bars used for framing ganache or caramel while it is in "liquid" form so that it sets to a specific thickness and dimensions for cutting into individual pieces. They are made of nickel-plated steel and are available in lengths of 20 or 30 in/51 or 76 cm. The bars weigh 6 lb/2.72 kg each, giving them enough weight to contain the liquid confection, and range in height from ⅜ to ½ in/0.9 to 1.3 cm.

A **guitar** is a stainless-steel cutter that is used to precisely cut multiple squares, rectangles, triangles, or diamonds out of slabs of a variety of different semisoft confections, such as ganache, caramel, and gelées. Each set comes with at least three interchangeable cutting frames, consisting of a stainless-steel square or rectangular platform with linear spaces that adjust to fit different-sized, interchangeable cutting frames that are threaded with stainless-steel wire that cuts through the confections.

Transfer sheets are acetate sheets with designs imprinted on them in plain or colored cocoa butter. They are used to imprint designs on chocolate.

DÉCOR TOOLS

Marzipan and **gum paste modeling tools** are small hand tools with tips made from high-quality plastic or stainless steel, so they maintain their fine detailing. They come in a variety of shapes for crafting decorations and textures. They are sold individually and in sets of up to twelve.

An **airbrush/spray gun** is used to spray food colors onto confections and cakes. It enables the decorator to create a wide range of shades and patterns, as well as to blend colors to produce special effects.

Acetate sheets are shiny, flexible nonstick sheets used for chocolate work, as well as for molding various pastries and cakes. They are sold ten sheets to a box, 15⅞ by 24 in/41 by 61 cm each, as well as in rolls of varying lengths and widths.

To keep sugar soft and malleable so that it can be molded, formed, or blown, the pastry chef applies heat using various tools.

A **blow dryer** can also be used to heat sugar and keep it soft for making pulled and blown sugar pieces. The best ones come with a stand so that they can be operated hands-free.

A **heat gun** looks somewhat like a blow dryer, but it doesn't blow the air with as much force, but produces more heat. It can also be used to heat a bowl of chocolate to keep it in temper.

Sugar lamps have a 24-in/61-cm neck on a weighted base, with an infrared heat bulb.

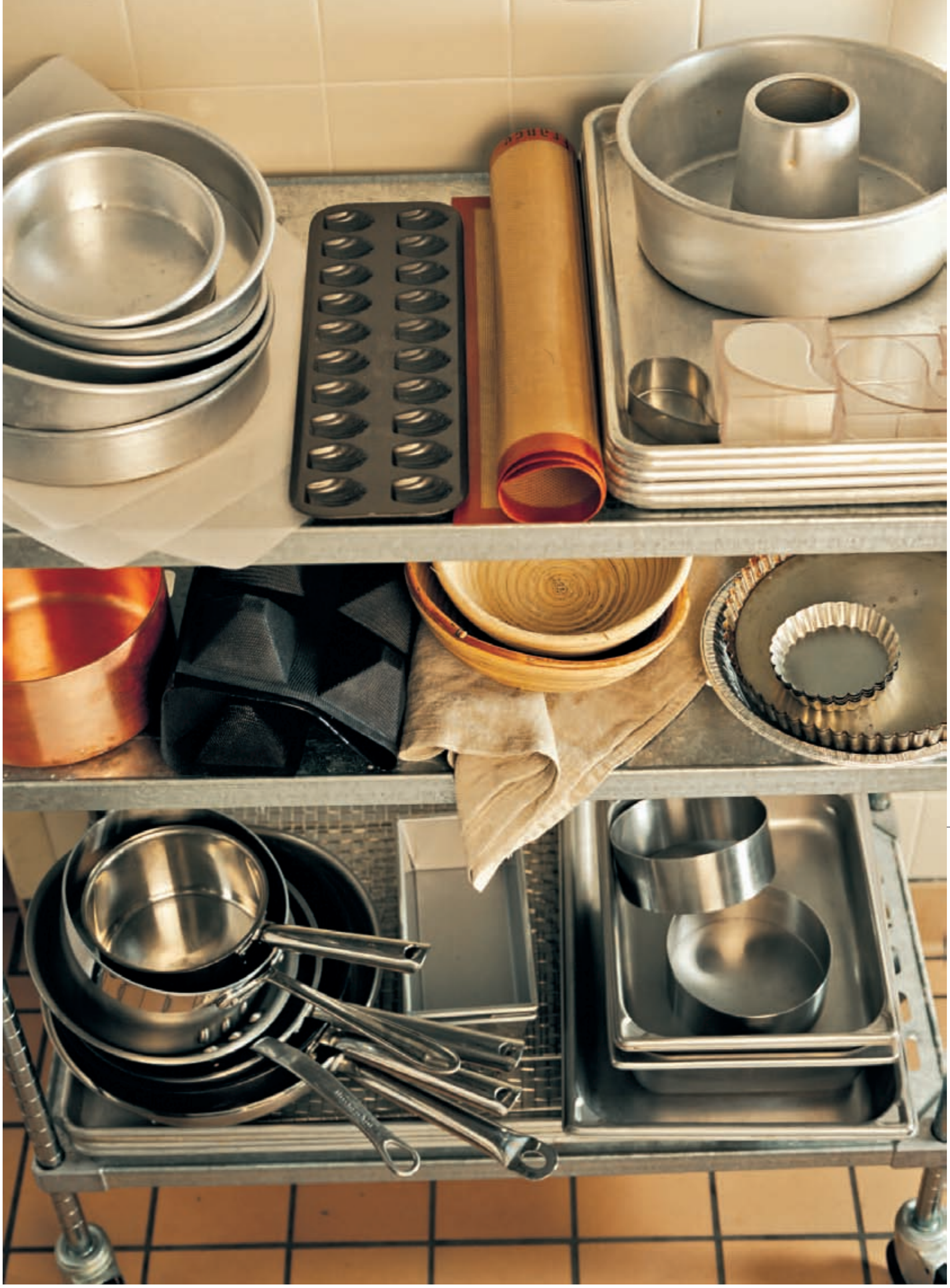
A **blown sugar pump** is a rubber squeeze ball that fits in the palm of your hand, attached to an aluminum, copper, or wood tip. It is squeezed to blow air into sugar to create a "balloon" that may be shaped and molded by hand as it expands. Sugar pumps are approximately 10½ in/26 cm long. A double-bulb pump has an extra air chamber in the rubber squeeze tube to better control the flow of air into the sugar.

BAKEWARE, RINGS, AND MOLDS

BAKING PANS

Hotel pans are stainless-steel pans that come in a number of standard sizes. These pans have a lip that allows them to hang on storage shelves or steam tables made specifically to the same measurements. They are deeper than sheet pans, making them well suited for use as a hot water bath for baking custards and other preparations that require one.

Sheet pans are flat, rimmed baking pans ranging in size from 17¾ by 25¾ in/45 by 66 cm (full-size sheet pan) to 12⅞ by 17¾ in/33 by 45 cm (half-size sheet pan) to 9½ by 13 in/24 by 33 cm (quarter-size sheet pan), with sides of 1 in/3 cm. Sheet pans are made of aluminum, with or without a nonstick coating. In the pastry kitchen or bakery, they are used for baking cookies and sheet cakes, among other things.



Bakeware, Rings, and Molds.

TOP SHELF: *Assorted cake pans, parchment paper, madeleine molds, rolled silicone baking mats, tube pan, paisley-shaped ejection molds with a cutter, half sheet pans*

MIDDLE SHELF: *Copper sugar cooking pots, flexible mold in a pyramid shape, banetton, linen couche, tart and tarlet pans in aluminum pie pan*

BOTTOM SHELF: *Saucepots and sauté pans, loaf pans, cake rings, hotel pans, cooling or glazing racks, full sheet pans*

Cake pans are made in various materials, including glass, silicone, tinned steel, and aluminum (with or without a nonstick coating). They are available in diameters ranging from 2 to 24 in/5 to 61 cm and depths ranging from ¾ to 4 in/2 to 10 cm. Aluminum conducts heat and thus bakes the most evenly, making it the most common material for cake pans.

Springform pans are available in diameters from 6 to 12 in/15 to 30 cm, with depths ranging from 2½ to 3 in/6 to 8 cm. The ring of a springform pan is joined with a clip closure that creates tension when closed and holds the removable bottom in place. These pans are used for baking cakes that have a delicate structure, making it difficult to unmold them from a traditional rigid cake pan without damaging them. Most springform pans are aluminum.

Tube pans have a center tube, so they conduct heat through the center of the batter as well as from the sides and bottom. They are useful for evenly baking heavy batters without overbrowning the outside of the cake. Tube pans also work well for batters that need to bake quickly, such as angel food cake. They are usually made of thin aluminum, with or without a nonstick coating. They come in a range of sizes and may have fluted, molded, or straight sides.

Pie pans are round pans with sloping sides, commonly made from glass, earthenware, or metal (with or without nonstick coating). They range from 8 to 10 in/20 to 25 cm in diameter and from 1½ to 3 in/4 to 8 cm deep.

Tart pans have fluted sides and removable bottoms. They may be round, square, or rectangular. They are made of tinned steel, with or without a nonstick coating. Round pans range from 4 to 13 in/10 to 33 cm in diameter and ¾ to 2¼ in/2 to 5 cm deep. Square pans are usually 9 in/23 cm across and 1 in/3 cm deep. Rectangular tart pans are 8 by 11 in/20 by 28 cm or 4½ by 14¾ in/11 by 38 cm and 1 in/3 cm deep.

Tartlet pans are most commonly made of tinned steel, with or without a nonstick coating. They come in various shapes and may have removable or fixed bottoms. They range from 1⅛ to 4 in/3 to 10 cm in size (measured across the base). The sides, which may be plain or fluted, are from ½ to ⅝ in/1.3 to 1.6 cm high.

RINGS AND MOLDS

Cake rings are stainless-steel rings available in diameters ranging from 2¾ to 12 in/7 to 30 cm and heights from 1⅓ to 3 in/3.4 to 8 cm. They are used for molding cakes and individual pastries.

Flan rings are straight-sided stainless-steel rings with rounded edges. They are used for baking and molding tarts and European-style flans. They are available in diameters ranging from 2½ to 11 in/6 to 28 cm and are ¾ in/2 cm high.

A **madeleine mold** is a tinned steel or aluminum sheet with scalloped impressions used for molding the small cakes called *madeleines*. They are available with or without a nonstick coating and have from twelve to forty cavities per mold. The impressions are available in two sizes: large and small.

Flexible silicone molds are made of silicone-coated fiberglass. They come in many different sizes and shapes for making individual or multiserve desserts and pastries. They can be used for molding chocolate or frozen desserts, as well as for baking pastries and cakes.

Modular ejection molds are acrylic molds available in different shapes and sizes; each mold comes with an extractor of matching shape and size. They are used to mold frozen, cold, or warm individual pastries that are made with ice creams or stabilized mousses and creams.

SILICONE MATS AND PARCHMENT PAPER

Flexible silicone baking mats are able to withstand oven temperatures up to 500°F/260°C. They are used for lining sheet pans to give them a nonstick baking surface. They also provide a nonstick heat-resistant surface in candy making. The mats are about ⅛ in/0.3 cm thick and come in full sheet pan and half sheet pan sizes. They should be stored flat to prevent them from splitting.

Parchment paper is grease-resistant, nonstick, heatproof, quick-release coated paper. It has endless uses in the bakeshop and pastry shop, such as lining baking pans and making piping cones for décor work. The paper can be reused until it becomes dark and brittle. It comes in large (full-sheet-pan size) sheets, in rolls, or precut for special uses such as making piping cones or lining cake pans.

STOVETOP POTS AND PANS

Sauté pans (sometimes referred to as *skillets*) are shallow pans, wider than they are tall. The sides may be sloping (sauteuse) or straight (sautoir). The different materials used for these pans determine how a particular pan behaves over direct heat. Cast iron heats slowly but maintains an even heat. Stainless steel conducts heat quickly, making it more responsive to temperature changes. Sauté pans are made in a wide range of sizes, with or without nonstick surfaces.

Crêpe and **omelet pans** are similar in construction to each other, though they have a smaller diameter (usually 7 or 8 in/18 or 20 cm in diameter) than sauté pans.

Saucepots are deeper than they are wide, and may have straight or flared sides. They come in a number of standard sizes and are versatile pots, used for preparing anything from a reduction to a sauce or filling.

LARGE EQUIPMENT

WHEN WORKING WITH LARGE equipment such as mixers and sheeters, safety precautions must always be observed. Proper maintenance and cleaning should also be performed consistently in order to keep the equipment in good working order and to prevent injury.

If a machine is unfamiliar to you, ask for instruction in operating it safely; ask for help if you need it, and, if possible, run it while someone familiar with the machine can supervise you.

Many large machines have built-in safety features—always use them. Make sure that the machine is stable, lids are secure, and hand guards are used.

MIXING, CHOPPING, AND PURÉEING EQUIPMENT

Mixing, chopping, and puréeing equipment has the potential to be extremely dangerous. The importance of observing all the necessary safety precautions cannot be overemphasized.

A **blender** consists of a base that houses the motor, and a removable lidded jar with a propeller-like blade set in the bottom. The speed settings for the motor, of which there may be as many as eighteen or as few as two, are in the base. Jars are made of stainless steel, plastic, or glass, and come in several sizes. Blenders are excellent for puréeing, liquefying, and emulsifying foods because the tall narrow shape of the jar keeps the food circulating and in close contact with the blade.

An **immersion blender** (also known as a *hand blender*, *stick blender*, or *burr mixer*) is a long, slender one-piece machine that works like an inverted countertop blender. The top part of the machine houses the motor, which generally runs at just one speed, and a plastic handhold with an on/off button extends above the motor. On professional/commercial models, a stainless-steel driveshaft, which varies in length depending on the model, extends from the motor and is attached to the blade, which is immersed in the food being puréed. An immersion blender serves the same functions as a regular blender, but the advantage of an immersion blender is that even large batches of food can be puréed directly in the cooking vessel. Some immersion blenders have magnetic bottoms, which allow you to stand them up in the pot and let them run unattended.

Vertical chopping machines (VCMs) operate on the same principle as a blender. A motor at the base is permanently attached to a bowl with integral blades. As a safety precaution, the hinged lid must be locked in place before the unit will operate. A VCM is used to grind, whip, emulsify, blend, or crush foods.

A **food chopper** (also called a *buffalo chopper*) is a piece of equipment in which the food is placed in a bowl that rotates when the machine is turned on; the food passes under a hood while blades rotate

STOP MIXER BEFORE CHANGING SPEED
robot coupe
On
Off
R 2

Large equipment. **CLOCKWISE:** *20-quart planetary mixer, food processor, immersion (stick or burr) mixer*

vertically to chop the food. Some units have hoppers or feed tubes and interchangeable disks for slicing and grating. Food choppers are available in floor and tabletop models. They are generally made of aluminum, with stainless-steel bowls.

A **food processor** houses the motor in its base. The work bowl is fitted over a stem and locked into place, along with the appropriate blade or disk. Foods are placed in the bowl or feed tube, the lid is placed on top and locked, and the motor turns the stem and the blade rapidly to grind, purée, blend, emulsify, crush, or knead, or, with special disks, slice, julienne, or shred foods.

MIXERS

Planetary mixers are also known as *vertical mixers*. They get their name from the motion of the mixing attachment, which moves in a path like that of a planet rotating on its axis while revolving around the sun inside the stationary mixing bowl. These mixers come with three standard attachments—a paddle, a whip, and a dough hook—and have multiple uses.

Spiral mixers are stationary mixers, meaning that the bowl, rather than the mixing attachment, rotates. These mixers have bowls that tilt, and only one attachment, a spiral-shaped hook. They are used exclusively for mixing bread doughs. They work the dough quickly but gently enough to control the amount of friction.

Oblique mixers, also known as *fork mixers*, are similar in construction to spiral mixers except that their attachment is a fork rather than a spiral. They are also used exclusively for bread doughs and work the dough gently to minimize the amount of friction, as do spiral mixers.

OVENS

Conventional ovens can be located below a range top. Food (in or on pans) is placed on wire racks that may be set at different heights within the oven. The heat source (either gas or electric) is located at the bottom, underneath the floor of the oven, and heat is conducted through the floor.

Deck ovens normally consist of two to four wide, flat decks stacked one above another, though single-deck models are available. Food is placed directly on the floor of a deck oven rather than on a wire rack as is done in a conventional oven. Some deck ovens have ceramic or firebrick bases; these are used for breads and pastries that require direct intense bottom heat to develop the crust. Deck ovens usually are gas or electric, although charcoal- and wood-burning units are also available. Like conventional ovens, the heat source for deck ovens is located underneath the deck, and heat is conducted through the deck.

Steam-injection ovens vent steam into the oven as breads and rolls bake. The steam helps to develop the crust and ensures that yeast-raised breads stay moist long enough to expand properly during baking.

Convection ovens are available in gas or electric models in a range of sizes. In a convection oven, fans force hot air to circulate around the food, cooking it evenly and quickly.

Combi ovens, either gas or electric, combine the advantages of steaming and convection ovens. They can be used in steam mode, hot-air convection mode, or heat/steam (combi) mode. Combi ovens are available in a number of different configurations.

A **microwave oven** uses electricity to generate microwave radiation, which cooks or reheats foods very quickly. Microwave ovens are available in a variety of sizes and power ratings. Some models can double as convection ovens.

PROOFERS

For professional bread bakers in a high-volume operation, a proofer is an essential piece of equipment. Proofers maintain the most desirable environment for yeast growth. In this way, they help to maintain production schedules and ensure that items are of uniform quality. Some proofers have refrigeration capabilities, making them able to retard yeast growth. Proofers like this are known as *proofer/retarders*. Retarders also help with production in the same ways as a proofer, by maintaining production schedules and quality standards. They are available as stationary walk-ins or as mobile boxes.

REFRIGERATION EQUIPMENT

A **walk-in** is the largest type. It usually has shelves arranged around the walls, and some walk-ins are large enough to accommodate rolling carts for additional storage. Some units have pass-through or reach-in doors to facilitate access to frequently required items. It is possible to zone a walk-in to maintain different temperature and humidity levels for storing various foods. Walk-ins may be situated in the kitchen or outside the facility. If space allows, walk-ins located outside the kitchen can prove advantageous, because deliveries can be made at any time without disrupting service.

A **reach-in refrigerator** may be a single unit or part of a bank of units. Reach-ins are available in many sizes. Units with pass-through doors are especially helpful for the pantry area, so that salads, desserts, and other cold items can be retrieved by the wait staff as needed.

On-site refrigeration units include refrigerated drawers or undercounter reach-ins that hold foods on the line at the proper temperature. They eliminate unnecessary travel, which can create a hazard during peak production periods.

Portable refrigeration is provided by refrigerated carts that can be stationed as needed in the kitchen.

Display refrigeration cases are generally used to showcase dessert items or pastries in a restaurant dining room, or cakes and pastries for sale in a shop.

ICE CREAM MACHINES

Simple **hand-cranked** or **electric ice cream machines** have a motor that either turns the paddle within the cooling chamber or rotates the chamber around the paddle. The bowl is usually removable and must be frozen for at least 12 hours before use. Bowls range from 6 to 9 in/15 to 23 cm in diameter and up to 6½ in/16 cm tall. These machines can produce up to a quart of ice cream per batch.

Commercial ice cream makers have built-in refrigeration units to make large-scale production of ice cream and other frozen confections possible. There are two basic types: continuous and batch. With a continuous ice cream freezer, the ice cream base is fed continuously into the machine at a high rate of speed. This type of machine allows for control of overrun, viscosity, and temperature of the finished product. Batch ice cream freezers churn a specific amount of ice cream base at one time. Batch ice cream freezers are available in two basic configurations: horizontal and vertical. Horizontal machines have a cylinder that lies horizontally within the unit. They incorporate a considerable amount of air into the product. Vertical machines have a vertical cylinder within the unit for churning and freezing the base. They incorporate the least amount of air into the product as the mix is scraped and blended.

PROFESSIONALS AND THEIR TOOLS

MOST EQUIPMENT IS MANUFACTURED by a number of different companies. There will be differences in quality, the number of additional features, shape, size, and cost. Good-quality tools are often more expensive, but they last longer and perform better than poorly made tools. Over time, you will want to accumulate both the basic and more specialized tools of your trade for your own kit or, perhaps, to outfit a shop or kitchen of your own. You can read about tools of all sorts in a variety of industry publications and learn about them at trade shows. Consult Appendix D (page 1086) for a list of recommended readings on equipment.

Some of the tools and equipment used in professional kitchens and bakeshops today are the same as those used centuries ago. Others are recent innovations and rely on advanced technology such as computer chips or infrared. The ability to select, use, and safely maintain all equipment is fundamental to the smooth and efficient operation of a kitchen or bakeshop. As new pieces of equipment are developed and introduced, it is your responsibility to learn how they might benefit your operation and your development as a baking and pastry arts professional.

4

ADVANCED BAKING PRINCIPLES

There are dozens of scientific principles at work in baking. As an introduction to the topic of food science, this section provides an overview of the most basic of these principles.

BAKING SCIENCE

FOOD SCIENCE IS an exacting study, dedicated to discovering and clarifying the complex reactions involved in food preparation. A general knowledge of how basic ingredients can be changed through the effects of temperature, agitation, and acids or alkalis gives the baker or pastry chef the freedom to develop new items. It also aids the chef in problem solving, such as changing a formula's original cooking method, finding a suitable shortcut for a long or complex recipe, or substituting one ingredient for another. These challenges may be inspired by a need to liven up or update a menu, cut costs, streamline production, or introduce a new technique or ingredient.

Books and articles on these topics should be part of every baker's or pastry chef's professional reading (see Appendix D, "Readings and Resources," page 1086).

BASIC BAKING INGREDIENTS

FLOUR, EGGS, WATER, FAT, and usually sugar are necessary in all baking and pastry goods. The ways in which these ingredients interact with one another and other ingredients during mixing and baking dictate the qualities of the end product. For the purposes of understanding how these ingredients influence a finished product, they can be divided into two categories: stabilizers and liquefiers.

STABILIZERS

A stabilizer is any ingredient that helps to develop the solid structure, or "framework," of a finished product. Of the five basic baking ingredients, flour and eggs act as stabilizers. Flour and eggs both lend structure (and nutritional value) to a finished product, but the way each of these ingredients acts is different.

PROTEINS IN FLOUR

GLUTEN IS FORMED BY the proteins present in wheat flour (wheat is the only grain that forms measurable amounts of gluten, making it an indispensable grain in the kitchen or bakeshop). Flour gives strength to a batter or dough and acts to absorb the bulk of the moisture in most baked goods. As the flour takes up water, gluten strands begin to form. To further develop these strands, making them more cohesive and elastic, the mixture is agitated (mixed).

Gluten development is essential for certain baked goods such as breads, in which a somewhat chewy texture is desirable; in other baked goods such as cakes, which should be tender and moist, excessive gluten development is a flaw. The differences among desired outcomes for the textures of different types of baked goods led to the development of flours with varying gluten levels.

While the gluten level of the flour has a very significant role in the final texture of a product, the amount of mixing a dough or batter undergoes, particularly if the flour has a moderate to high percentage of gluten, will also have a marked impact.

Gluten is composed of two distinct proteins: glutenin and gliadin. When flour is mixed with water, the glutenin and gliadin begin to join together (with the water intermingled) to form strands or sheets of gluten. The glutenin provides the elasticity; the gliadin, the extensibility. The formation of these strands provides the structure for many baked goods. If a flour with too little (or no) gluten is used in bread making, the bread will not rise. Yeast is the catalyst for risen bread, but it is also necessary to have well-developed gluten to trap the gases produced by the fermenting yeast for bread to rise.

HYDRATION OF A DOUGH OR BATTER

IN THE BAKING PROCESS, liquid provides the moisture necessary for hydration of the ingredients. The moisture aids in the development of the gluten in the flour, in gelatinization of starches, and in dissolving other ingredients to achieve even distribution and consistency. Typically, the liquid used in baking and pastry formulas is water or milk, or a combination of the two.

Products made with water are less expensive and have a longer shelf life. Those made with milk contain more nutrients and are more flavorful. The sugars present in milk also help these products develop a golden brown color in the oven.

Flour represents the bulk of most of the formulas made in any bakeshop. It acts as a binding and absorbing agent, and it may be thought of as the "backbone" of the majority of bakeshop formulas. It is the gluten (the protein component in flour) that builds structure and strength in baked goods. Different types of flours have different gluten-to-starch ratios, which will create vastly different results in the texture, appearance, and flavor of the final product if used in the same formula. A flour with a higher gluten content will result in a tougher crumb, whereas a flour with a lower gluten content will result in a more tender crumb.

Eggs lend additional stability during baking. They influence the texture and crumb as well; by facilitating the incorporation and distribution of air, they promote an even-grained and fine texture. Eggs also have leavening power. As eggs—whole, yolks, or whites—are whipped, they trap air, which will expand when heated, resulting in a larger and lighter product.

In addition, eggs help to develop flavor and aroma in a product, mostly from the fat and nutrients contained in the yolk. Egg yolks also contribute to a drier finished product, and egg whites add volume and moisture.

LIQUEFIERS

The remaining three of the five basic baking ingredients—water (along with milk and other liquids), fats, and sugar—act as liquefiers. That is, they help to loosen or liquefy a dough or batter. Some liquefiers such as sugar may actually tighten or bind a dough when first added, but their interaction with other ingredients ultimately tenderizes or loosens the dough or batter.

Water acts to dilute or liquefy water-soluble ingredients such as sugar and salt. It also facilitates the even distribution of sugar, salt, and yeast in a dough if these ingredients are mixed thoroughly with the water before introducing the remaining ingredients in the formula. In bread making, water is typically the primary liquefier. A bread formula with a higher percentage of water results in a more open-grained and softer crumb. In addition, water helps to develop the proteins in flour, necessary for proper leavening. Water also acts as a leavener as it changes to steam and expands.

Milk performs many of the same functions as water, but because of its additional components (fat, sugar, minerals, and protein), it serves a number of other functions and adds flavor as well. As the sugar (lactose) in milk caramelizes, it gives a rich color to the product's surface, and can also aid in development of a firm crust. The lactic acid in milk has a tightening effect on the proteins in flour, which serves to increase stability, resulting in a product with a fine grain and texture.

Fats also fall into the category of liquefiers. If the total amount of fat added to a dough or batter equals no more than 3 percent of the weight of the finished dough or product, it acts to increase the elasticity of the proteins in the flour, thereby helping the bread or other product to expand during baking. In baking, fats and oils are also classified as shortening agents, a term derived from their ability to split the long, elastic gluten strands that can toughen doughs and batters. This tenderizing effect renders the strands more susceptible to breaking, or shortening, resulting in a more tender and less dense crumb.

Although sugar has a tendency to tighten up a mixture when it is first incorporated, by its nature it attracts moisture, a characteristic that causes it to ultimately loosen or liquefy a batter or dough. For the gluten in flour to develop, it needs moisture; because sugar attracts moisture, it acts to inhibit gluten development in the batter or dough, preventing it from becoming too tough or elastic. Furthermore, when used in the correct proportion, sugar can help to maintain the elasticity of the gluten strands present in a dough or batter. With maximum

SHORTENING AGENTS

Butter

Butter is made from cow's milk. It is approximately 80 percent fat, 10 to 15 percent water, and 5 percent milk solids. The advantages of using butter in baking are its flavor and lower melting point.

Lard

Lard is rendered pork fat. It is most often used in conjunction with other fats.

Oils

Oil is seldom used in baked goods. Solid fat is more typically a requirement for baking formulas that are made using the creaming method (see "The Creaming Mixing Method" in Chapter 10, page 256); it is necessary for aeration, which lends leavening power and structure to the finished baked item.

Shortenings

Solid shortenings are hydrogenated vegetable fats created for baking. They are made by injecting hydrogen gas into purified oil as it is heated. Hydrogenated fats will have varied melting temperatures depending on the purpose for which they were manufactured. Most are designed to cream well, and thus have a higher melting point.

To create emulsified shortening, mono- and diglycerides are added to shortening, resulting in increased absorption and retention of moisture. Recipes using emulsified shortening have higher ratios of milk, sugar, fat, and eggs to flour, resulting in richer cakes that are less prone to drying out. Emulsified shortening is typically used when the quantity of sugar in a recipe is equal to or greater than the amount of flour.

ADDITIONAL FUNCTIONS OF FATS AND OILS IN BAKING

- **IMPROVE EATING QUALITIES.** Products are more tender and less chewy; in addition, some fats or oils add flavor.
- **IMPROVE APPEARANCE.** Shortening agents do not dissolve in doughs or batters, but instead become evenly dispersed and incorporate air, resulting in a soft crumb in breads and flakiness in pastries, which make them more appealing to the eye.
- **IMPROVE KEEPING QUALITY.** Fats delay the retrogradation, or breakdown, of starches, which helps to delay staling.
- **ADD FOOD VALUE.** Fats constitute a concentrated source of energy.
- **ADD VOLUME.** Used in conjunction with the creaming method, fats can facilitate the incorporation of air that expands during baking into a batter, contributing to leavening.

elasticity, the gluten can expand more easily so the item is more efficiently leavened, allowing for the proper development of volume and the creation of a moist and tender crumb. During baking, sugar also interacts with the starch component of flour to delay its gelatinization, enabling batters and doughs to stay softer longer and allowing greater spread and rise before setting.

LEAVENERS

TO LEAVEN IS TO RAISE, or to make lighter. There are several ways to accomplish this in baking: with yeasts (also known as organic leaveners), with chemical agents such as baking powder or baking soda, or with steam (mechanical leavening). Each method is best suited to specific applications and produces very different results. The different leavening methods may be used alone or in conjunction with one another (as in croissants, for example) to yield different effects.

YEAST

Yeast is a living organism that needs suitable conditions to thrive. Commercially sold baker's yeast is of

OTHER FUNCTIONS OF SALT IN BREAD BAKING

- Strengthens the gluten strands
- Contributes to elasticity, which in turn acts to improve the texture of the final product
- Is an important flavor component in breads. It enhances both the subtle flavors in the other ingredients and those that result from the fermentation process. Without salt, bread tastes flat.

the strain *Saccharomyces cerevisiae*, which has been determined to be the best suited for bread baking.

Yeast needs warmth, moisture, and food (carbohydrates) to begin fermenting. By definition, fermentation is the anaerobic respiration of microorganisms. The process converts carbohydrates into alcohol and carbon dioxide. The carbon dioxide acts to leaven a dough or batter as the gas is trapped in the web of protein (gluten) strands that developed during the mixing process. The alcohol acts to tenderize the gluten strands, improving the overall texture of the product; it cooks out during baking, leaving no undesirable flavor.

The fermentation process is important in building the internal structure and flavor of the dough. Given the proper environment, yeast cells will continue to ferment until they run out of food, or until the by-products of fermentation begin to poison them and they die. For these reasons, as well as the necessity of maintaining production schedules, it is easy to see why time is an important element in making quality yeast-raised products. Consequently, it is important to understand how the fermentation of yeast can be controlled.

Yeast cells are sensitive to the temperature of the environment. The ideal temperature for fermentation is between 80° and 90°F/27° and 32°C. Lower temperatures will retard or arrest yeast development. Temperatures at or above 105°F/41°C will also slow fermentation. Yeast dies at 138°F/59°C.

While sugar provides an immediate food source for yeast to begin fermentation, too much sugar can act to slow the fermentation process. High concentrations of sugar can have the same dehydrating effect as salt, causing yeast cells to die.

Salt plays many roles in baking, but its contributions are most evident in bread baking. It helps to slow yeast growth and, when used in the correct proportions, will help to control the rate of fermentation. However, too much salt can damage or kill the yeast by dehydrating the cells, resulting in a heavier, denser product. For this reason, salt should never come in direct contact with yeast.

CHEMICAL LEAVENERS

Baking soda and baking powder are the primary chemical leaveners. With these leaveners, an alkaline ingredient—the baking soda or baking powder (which also contains an acid and a starch)—interacts with an acid. The alkali and acid, when combined with a liquid, react to produce carbon dioxide, which expands during baking, leavening the dough or batter.

Baking soda, or sodium bicarbonate, is a common leavening agent for cakes, quick breads, and cookies. Sodium bicarbonate is an alkali and is, therefore, positively charged and seeks to be in a neutral state. (For more information on alkalis, see “Acid, Base, and pH,” page 66.)

As sodium bicarbonate reacts with an acid, it breaks down and releases carbon dioxide, which is captured in the dough or batter and causes it to rise (leaven) as it is baked. To break down and be relieved of its charge, sodium bicarbonate requires the presence of an acidic ingredient, such as chocolate, vinegar, a cultured dairy product, fruit juice, or molasses.

Baking powder is a mixture of sodium bicarbonate, an acid, and cornstarch. The sodium bicarbonate (soda) will react with the acid to create carbon dioxide when combined with a liquid, and the carbon dioxide acts to leaven the product. The cornstarch in baking powder absorbs moisture and keeps the acid and alkaline components from reacting with each other before they are mixed into a dough or batter.

There are two types of baking powder: single-acting and double-acting. Single-acting baking powder contains sodium bicarbonate and cream of tartar (called a *dry acid*). Because cream of tartar is easily dissolved, this type of baking powder needs only to be combined with a liquid for the two substances to react and release the carbon dioxide that will leaven the dough or batter. Double-acting baking powder combines sodium bicarbonate with dry acids that have different solubility rates. One of the acids is easily soluble and will begin to react with the sodium

ACID, BASE, AND pH

THE PH OF A SOLUTION is the measure of its acidity or alkalinity. A pH of 7 denotes a neutral solution, which indicates a balance between the negative and positive ions within the solution. If a solution has a pH higher than 7, it is alkaline or base and has a positive charge. If a solution has a pH lower than 7, it is acidic and has a negative charge. Compounds that are charged are unstable, meaning that they have a natural affinity to become neutral.

They may break down on their own when heat is applied, or they may break down in reaction to the presence of a compound or element that has the opposite charge.

bicarbonate when wet. The other needs heat for it to completely dissolve, delaying its reaction until the product is in the oven.

MECHANICAL LEAVENING

Mechanical leavening occurs when air or moisture, trapped during the mixing process, expands as it is heated during baking in pockets created by cooking proteins, causing "balloon-like" expansion that aids in the leavening process. This method of leavening occurs when one of three distinct methods is used: foaming, creaming, or lamination.

The foaming mixing method requires that eggs, egg yolks, or egg whites be beaten to incorporate air until they form a foam. This foam is then added to the batter, folded in so as to disrupt as few of the air bubbles as possible and maintain the volume of the foam. The air trapped in these bubbles then expands during baking and causes the product to rise.

The creaming method of mixing blends fat and sugar together to incorporate air. The creamed mixture is then combined with the remaining ingredients, and as the product bakes, the air trapped during the creaming process expands and leavens it.

In lamination, alternating layers of fat and dough are created through different folding and rolling techniques (for more information on lamination techniques, see "Laminated Doughs" in Chapter 9, page 226). When the dough is baked, the fat melts, releasing water in the form of steam, which acts to leaven the dough. The steam fills the pockets left by the melting fat and expands, causing the product to rise; the fat then "fries" the dough so that the spaces are retained.

SWEETENERS

SWEETENERS COME IN MANY forms, and are an integral part of most baked goods and pastries. They serve a number of important functions including flavor, moisture, leavening, extended shelf life, and color.

MONOSACCHARIDES AND OLIGOSACCHARIDES

A monosaccharide, or single sugar, is the basic building block of all sugars and starches. Fructose and dextrose are both monosaccharides. These are the simplest sugars. When fructose and dextrose are bonded together, they form a disaccharide, or double sugar, called sucrose—that is, table sugar. Many monosaccharides linked together in long chains are called polysaccharides. Starches such as cornstarch are made up of such chains, thousands of saccharides long. Although starches are also made up of sugar molecules, they do not taste sweet, and they do not dissolve in water when they are in long chains.

Oligosaccharides lie somewhere in between table sugar and the starches present in cornstarch and flour that we are so familiar with. They are chains of sugar molecules—not so long as those in starches, but longer than those in sugars. Like starches, they do not taste sweet; unlike starches, they dissolve in water. All of these terms are vital to understanding corn syrup and glucose, because they are the ingredients in our humble bucket of glucose syrup.

CRYSTALLIZATION OF SUGAR

Crystallization is a process that occurs when sugar is deposited from a solution. This type of deposition allows the sugar molecules to assume their characteristic geometric form. Sugar crystallization is influenced by many things: saturation levels, agitation, temperature, cooling, seeding, invert sugar, and acid. Through manipulation of these factors, the process of crystallization may be controlled to create the typical crystalline and noncrystalline structures used in the bakeshop or pastry kitchen, such as fondant, rock candy, hard candies, and caramel.

In order for sugars to crystallize out of solution, the solution must be sufficiently saturated for precipitation to occur. Typically, in a bakeshop or pastry kitchen, sugar will be dissolved in water through the introduction of heat, which facilitates the dissolving and incorporation of more sugar. The solution may then be heated to a specific temperature, thereby evaporating water and serving to further increase the density, or saturation, of the solution. The more saturated, or "densely packed," a solution, the more likely and more easily it will begin to crystallize.

Crystallization occurs as the particles in solution collide with one another; hence agitation is a key contributor to the process. If agitation is initiated while the solution is still hot, large crystals will form as molecules become attached at a slower rate. As the mixture cools, crystals form more readily, promoting rapid growth of many tiny crystals when stirred or otherwise agitated. If the mixture is allowed to cool without agitation and is then stirred, it will crystallize rapidly but will form small crystals rather than large ones.

The introduction of a "seed" will cause crystallization. A seed is anything, from whole sugar crystals to air bubbles to a skewer (as when making rock candy), that will act as a surface for the sugar crystals to adhere to and grow on.

ADDITIONAL FUNCTIONS OF SUGAR IN BAKING

- **AIDS IN THE CREAMING PROCESS.** The crystalline structure of granulated sugar makes it an effective agent for the incorporation of air into batters mixed by the creaming method. The incorporated air is then held by the shortening agent, the other main ingredient in any creaming method formula.
- **RETAINS MOISTURE AND PROLONGS FRESHNESS.** Sugar absorbs moisture from other ingredients as well as from the atmosphere, thereby helping to keep finished products moist and delay drying out or staling.
- **IMPARTS COLOR TO CRUSTS.** Through caramelization and the Maillard reaction (for more information on browning reactions, see page 68), sugar aids in the development of a deep golden crust during baking, which also adds flavor.
- **CONTRIBUTES FOOD VALUE.** Sugar in moderate amounts can supply some of the carbohydrate requirements of a normal diet.

Controlling or delaying crystallization allows the sugar solution to be manipulated or pulled without graining. It allows the confectioner to make chewy caramels that will not crystallize.

Certain ingredients may be introduced into a sugar solution to inhibit crystallization. A small amount of glucose syrup or another invert sugar is often added to the solution. The molecular structure of glucose and other invert sugars is different from that of sucrose. This difference means the invert sugar will inhibit crystallization by getting in the way of the sucrose molecules that start to attach to each other as they begin to crystallize out of the solution. A second way to inhibit crystallization is to introduce a small amount of an acid into the solution.

When sucrose (table sugar) is boiled with dilute acids, the acids will cause the inversion of some of the sucrose molecules. The resultant invert sugars will interfere with the crystallization process just as glucose syrup does.

HYGROSCOPIC PROPERTIES OF SUGAR AND SALT

Sugar and salt are both hygroscopic, meaning they will readily take up water under certain conditions of humidity. In baked products, they act to retain moisture, extending shelf life. In items such as hard candies, however, this attraction of moisture acts to begin to break down the structure of the candy or other item, causing it to become soft and sticky.

BROWNING REACTIONS

There are two types of processes that create browning in food: caramelization and the Maillard reaction. Browning occurring from either of these processes results in a rich color and enhances both the flavor and aroma of the food. Caramelization occurs when sucrose is present, and only at high temperatures. As sugar is heated, it melts and then begins to break down. As the temperature continues to increase, different compounds will form and then break down, creating different flavors and colors throughout the cooking process. The Maillard reaction (for example, the browning of bread crust in the oven) occurs between the reducing sugars and proteins; it can occur at low temperatures more slowly, and at high temperatures over short periods of time. It is a complex browning reaction that results in the particular flavor and color of foods that do not contain much sugar.

SATURATED AND SUPERSATURATED SUGAR SOLUTIONS

Saturation and supersaturation are vital concepts for the confectioner, as they are directly linked with the process of crystallization. At a given temperature, a specific quantity of water can dissolve only a finite quantity of sugar. The warmer the water, the more sugar it can dissolve.

When no more sugar can be dissolved in a certain amount of water at a certain temperature, the solution is said to be *saturated*. When a saturated solution is then heated to evaporate some of the water, the solution becomes supersaturated. Supersaturated solutions contain a higher concentration of sugar than could have been initially dissolved in the same amount of water. Supersaturated solutions are delicate systems. Sugar molecules are attracted to each other, and with so many of them in such a small amount of liquid, they are quite likely to join together. This action results in the formation of crystals.

INVERT SUGAR

The term *invert sugar* refers to a sugar (sucrose or table sugar) whose optical or refractory properties have been altered. This altering occurs when it is boiled together with a dilute acid, such as cream of tartar (in solution), lemon juice, vinegar, and so on. In the presence of the acid, the sucrose breaks down into its two components, dextrose and fructose.

There are also naturally occurring invert sugars, such as honey. However, many, if not most, of these natural invert sugars contain other components, or impurities, which make them ill-suited for use in the sugar-cooking and candy-making processes, as the impurities typically burn at a much lower temperature than is required to cook the sugar.

BENEFITS OF GLUCOSE SYRUP

- **Makes cooked confections softer and easier to work with**. Added to cooked sugar in the proper amount, it will increase its elasticity.
- **Is a humectant**. That is, when it is added to baked goods, it helps to retain moisture, resulting in a moister product and a longer shelf life.
- **Is usually less sweet than sugar**. For example, 42 DE corn syrup is only about 60 percent as sweet as cane sugar. By substituting this syrup for a percentage of the sugar in a formula, the sweetness of baked goods or frozen desserts can be decreased without sacrificing the textural advantages afforded by sugar.

THICKENERS

SAUCES, PUDDINGS, FILLINGS, MOUSSES, and creams can be thickened or stabilized by many ingredients, including gelatin, eggs, and starches such as flour, cornstarch, tapioca, arrowroot, and other modified food starches such as Ultratex (modified tapioca starch). These thickeners may be used to lightly thicken a mixture, such as a sauce, or to produce something set to a sliceable consistency, like Bavarian cream.

The quantity and type of thickener, as well as how it is stirred or otherwise manipulated, will determine the properties of the finished product. For example, if a custard is cooked over direct heat and stirred constantly, the result will be a sauce that pours easily. Baked in a water bath with no stirring at all, the same base will set into firm custard. Modified food starches such as Ultratex will thicken without the application of heat.

GELATINIZATION OF STARCHES

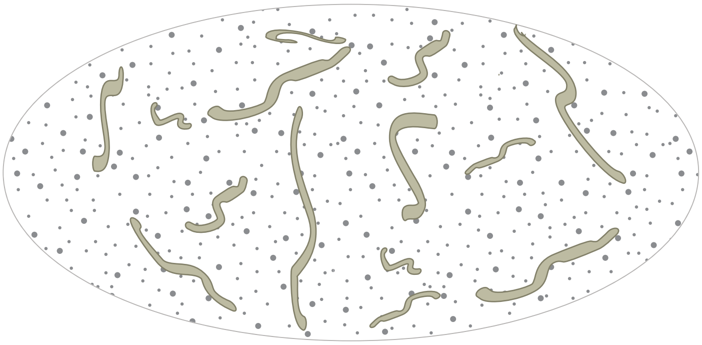
When starch granules suspended in water are heated, they begin to absorb liquid and swell, causing an increase in the viscosity of the mixture. This reaction, known as *gelatinization*, allows starches to be used as thickening agents.

POLYSACCHARIDES

Polysaccharides are starches that are commonly used as thickening agents in preparations such as sauces and fillings. They are complex carbohydrates composed of two types of starch molecules, both of which are made of long chains of dextrose. One type, amylose, exists in long linear chains, and the other, amylopectin, in dendritic (branched) patterns. The ratio in which the two types of starch molecules occur in a starch will dictate its use. The higher the percentage of amylose, the more prone the starch is to gel. The more amylopectin present, the more the starch will act to increase viscosity or thicken without causing a gel to form. Starches high in amylose are derived from grain sources such as wheat and corn, while starches with a high percentage of amylopectin are derived from roots and tubers, such as tapioca.

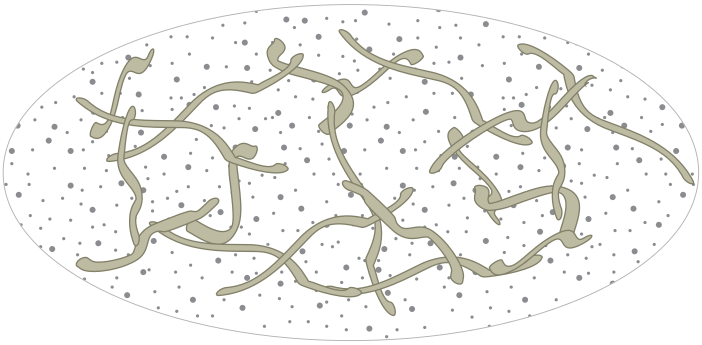
It is only after a starch in liquid is heated that the granules can absorb the liquid and begin to thicken it. As the starch is heated, the molecules within each granule begin to move faster and their bonds begin to loosen, allowing liquid to work its way into the normally tightly bound granules. As the granules absorb the liquid, they swell, making it easier for more liquid to be absorbed. All starches have different temperatures at which they begin to thicken.

A Gel Has Not Formed



Unbound hydrocolloids in
a continuous phase of water

A Gel Has Formed



A gel is formed when hydrocolloids bind
to form a three-dimensional network that
traps water, preventing motion

RETROGRADATION

Starches high in amylose that have been gelatinized and then undergo freezing, refrigeration, or aging may begin to retrograde, or revert to their insoluble form. This reaction causes changes in food texture and appearance (staling in breads and similar products; cloudiness or graininess in sauces, puddings, and creams). But not all starches have the same tendency toward retrogradation. It is important to choose the correct starch for an application. For example, when making pies to be frozen, it is best to use modified food starch to thicken the filling, rather than cornstarch.

Gelling and Thickening Agents and Their Uses

STARCH	SOURCE	CHARACTERISTICS	USES
Modified food starches	Various	Flavorless; freezes well	Fruit fillings
Cornstarch	Grain	Prone to retrogradation; must be heated to a boil to remove flavor	Sauces, puddings and fruit fillings
Flour	Grain	Prone to retrogradation; must be heated to a boil to remove flavor	Pudding and fruit fillings
Arrowroot	Tuber	Flavorless; makes a translucent paste that will set to a gel; if overagitated, overcooked, or used in too large a quantity, may make the product stringy and gooey	Soups and sauces
Tapioca/cassava	Root	Doesn't set to a gel; doesn't retrograde	Puddings and fruit fillings
Potato	Tuber	If overagitated, overcooked, or used in too large a quantity, may make the product stringy and gooey	Kosher baking
Agar-agar	Sea vegetable	Strong thickening properties; sets to a firm gel; has a very high melting point	Gelées and vegetarian desserts
Pectin	Citrus skins, apples, and other high-pectin fruits	Requires a low pH and high sugar content to form a gel	Jellies, jam, preserves, and gelées
Gelatin	Animal	Melts below body temperature; boiling may reduce its strength; enzymatic reactions with certain fruits will prevent setting	Mousses, aspics, and gelées
Eggs	Animal	If not used in conjunction with a starch, will curdle when overcooked; yolks create a soft velvety set, whites create a resilient set	Custards, custard sauces, and puddings

PECTIN

Pectin is a carbohydrate derived from the cell walls of certain fruits. Some common sources of pectin are apples, cranberries, currants, quince, and the skins of citrus fruits, all of which are high in pectin. Pectin may be used as a gelling agent or as a thickener. To gel, it requires the correct balance of sugar and an acid. Pectin molecules have a natural attraction to water molecules; when pectin is put in solution alone, the molecules will become surrounded by water molecules and will not gel the solution. The addition of an acid interrupts this attraction, and sugar further acts to draw the water away from the pectin molecules, allowing them to connect together and form a three-dimensional network.

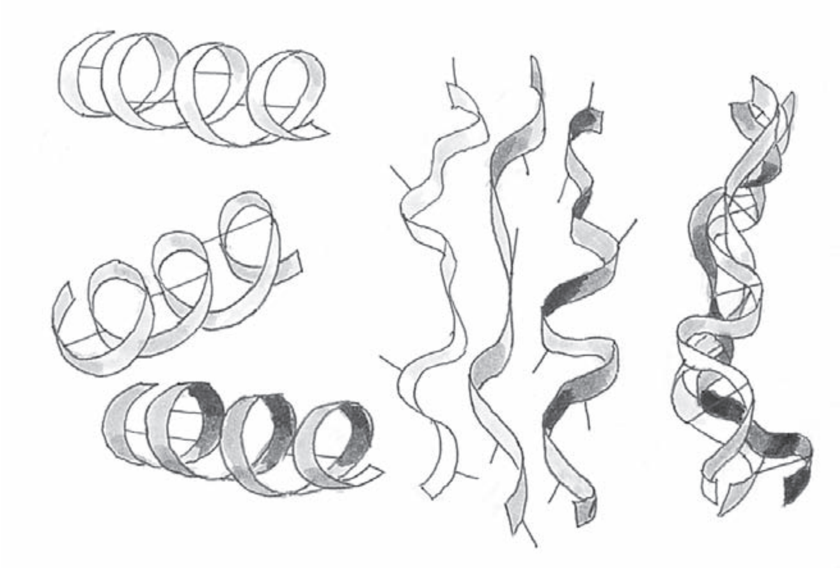
GELATIN

Gelatin is typically used to produce light, delicate foams (such as Bavarian creams, mousses, and stabilized whipped cream) that set so they may be molded or sliced. Available in both granulated and sheet form, gelatin must first be rehydrated, or bloomed, in a cool liquid. Once it has absorbed the liquid, it is then gently heated to melt the crystals, either by adding the softened gelatin to a hot mixture such as a custard sauce, or by gently heating it over simmering water.

Gelatin, a protein derived from the bones and connective tissue of animals, is composed of molecules that attract water. When they first come in contact with water, they swell; then, as they are heated, they completely dissolve. As the mixture cools, the proteins join together to form a three-dimensional web (much as in coagulation) that holds in the moisture. This system is called a *gel*. When used in making a mousse or Bavarian, the gelatin solution is beaten into a mixture containing many air pockets. The proteins found in the gelatin are thus stretched to hold the air as well as the moisture, creating a stabilized product. Gelatin is also used commercially in the production of ice cream, as it interferes with formation of ice crystals.

ENZYMES AND GELATIN

WHEN WORKING WITH GELATIN, it is important to remember that there are a few fruits that contain proteases—enzymes that will break down the collagen in gelatin and not allow it to set (gel). Among these fruits are kiwi, pineapple, papaya, honeydew melon, and banana. To use these fruits in any gelatin-based application, you must first allow the fruit or fruit purée to simmer for 2 to 3 minutes to destroy all of the protease enzymes before adding the gelatin, or use an ultra-pasteurized purée.



Uncoiling and denaturing proteins

EGGS AS THICKENERS

Whole eggs, egg yolks, or whites may be used, alone or in conjunction with other thickeners, to thicken a food. Eggs act to thicken through the coagulation of proteins. As their proteins begin to coagulate, liquid is trapped in the network of set proteins, resulting in a smooth, rather thick texture. This is known as a *partial coagulation*, in which the proteins hold moisture; if the mixture were cooked or baked further, the proteins would fully coagulate and expel water, causing the product to curdle.

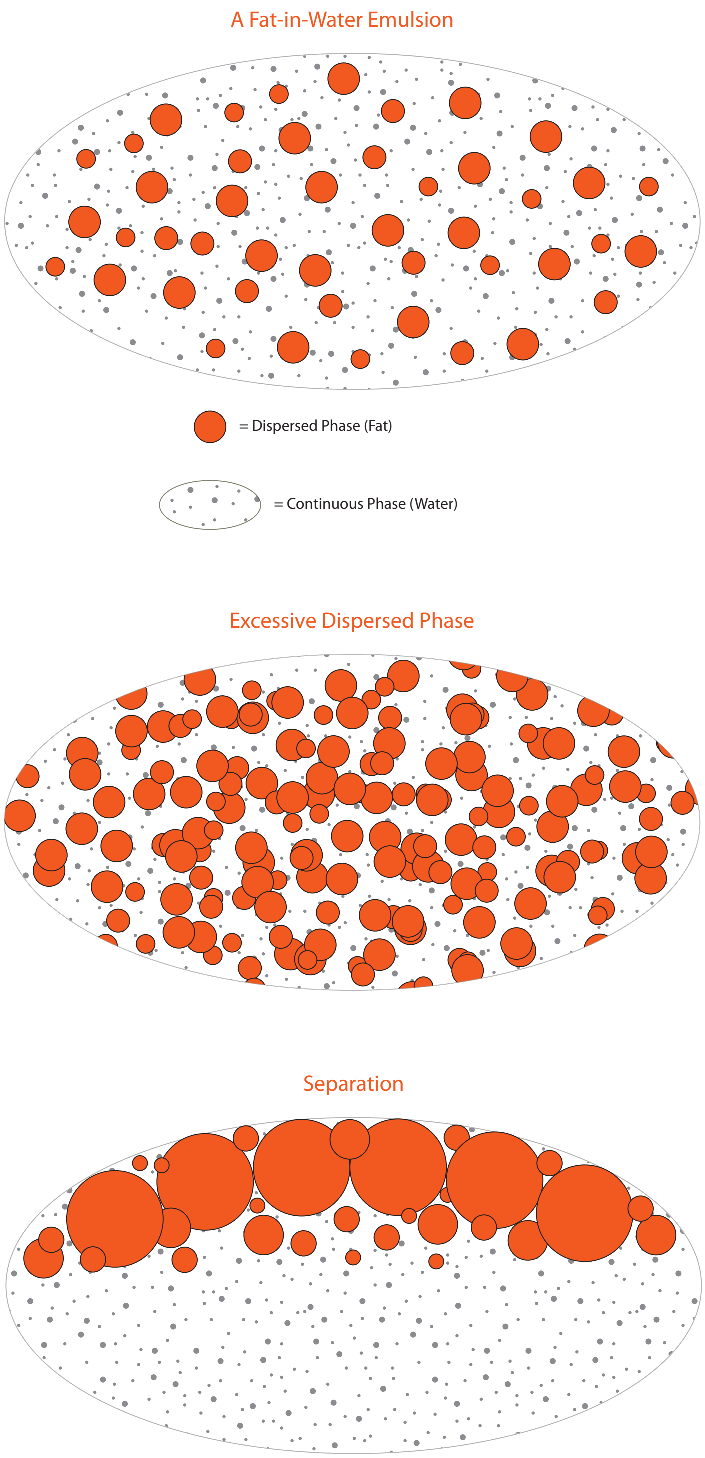
At the molecular level, natural proteins are shaped like coils or springs. When natural proteins are exposed to heat, salt, or acid, they denature—that is, their coils unwind. When proteins denature, they tend to bond together, or coagulate, and form solid clumps. An example of this is a cooked egg white, which changes from a transparent fluid to an opaque solid. As proteins coagulate, they lose some of their capacity to hold water, which is why protein-rich foods give off moisture as they cook, even if steamed or poached. Denatured proteins are easier to digest than natural proteins.

Most commonly, proteins are denatured through the application of an acid, agitation, or heat. The addition of one or more of these elements will act to alter the structure of the protein by disrupting the bonds that shape its molecules. This change in structure permits the protein to behave in a different manner. For example, the proteins will extend in length, so that they are more likely to come in contact with one another and bond, forming a web (or coagulating). In this way proteins become useful as a thickening agent that can be used in many applications where starches may not, such as in frozen desserts.

EMULSIONS

AN EMULSION IS A SYSTEM of two immiscible liquids (liquids that cannot be mixed together to form a true solution) that appears to be a completely homogenous mixture but is in fact what is known as a *two-phase system*, having a dispersed phase and a continuous phase. When mixed to combine, one of the liquids breaks up into minute droplets (dispersed phase) and the other remains as a matrix for the droplets to be dispersed in (continuous phase).

There are two types of emulsions, temporary and permanent. A temporary emulsion is one that will separate into two distinct layers in a short period of time. In a permanent emulsion, the two liquids do not separate as easily because of the presence of a third element, known as an *emulsifier*. Emulsifiers are naturally occurring substances that are attracted to both fat and water and thus facilitate maintaining a stable emulsion between two immiscible liquids.



A Fat-in-Water Emulsion

● = Dispersed Phase (Fat)
= Continuous Phase (Water)

Excessive Dispersed Phase

Separation

TOP: *An emulsion is a suspension of the dispersed phase in the continuous phase.*

MIDDLE: *An excess of the dispersed phase forces the droplets together.*

BOTTOM: *The result is separation: the droplets are no longer discrete, but coalesce into large drops that do not remain in suspension.*

TEMPERING CHOCOLATE

TEMPERED CHOCOLATE HAS a glossy finish, snap, and creamy texture. Cocoa butter, the fat found in chocolate, may set into one of four types of crystals: beta, gamma, alpha, or beta prime.

Only the beta crystals are stable and yield the gloss, snap, and proper texture. To temper chocolate, all of the crystals must first be fully melted. For the chocolate to maintain gloss and snap, as it is cooling it must form stable beta crystals. They can be caused to form by gradually reducing the temperature of the melted chocolate until it is at 80°F/27°C, while applying constant agitation. To encourage the formation of the beta crystals, some additional already-tempered chocolate (known as a *seed*) may be added to the mixture.

All chocolate you buy is in temper, if it has been properly stored since its time of manufacture. But if you are going to dip centers, mold it, or use it for other confectionery or décor work, you will need to melt it and temper it again. See Chapter 21, Chocolates and Confections, for more discussion of tempering.

HEALTHY BAKING

TODAY'S CONSUMER IS INCREASINGLY concerned about high-calorie, high-fat foods. Pastry chefs must be aware of this concern and look for ways to curb the fat and calorie content of their pastries and desserts when the market calls for it.

One method pastry chefs are using to cut back on calories is substituting fruit purées (such as apples, dates, and prunes) for pure sugar in their products. This will increase the sugar and moisture content of the product, but it may also change the baking methods.

Methods to decrease fat are also quite common and easy for pastry chefs. For example, instead of using whole milk, substitute buttermilk, skim milk, evaporated milk, or even water. Yogurt is another product pastry chefs are using in their baked goods. Replacing oil or butter in a recipe with yogurt will change the acid, protein, and moisture content of the item, while adding a leavening agent and affecting taste and color. (Strain the yogurt through cheesecloth overnight to get rid of any lumps or impurities.)

A cheesecake can lose fat if it is made with reduced-fat cream cheese rather than regular cream cheese. Fat-free sour cream is available to substitute for regular sour cream. Replacing some eggs with egg whites is another way to cut back on fat; in many instances two egg whites can be used in place of one whole egg.

There are challenges when making substitutions in healthy baking. The moisture content of your dough or batter might change. Baking time and temperature may also have to be adjusted. But the old adage that products with less calories and fat do not taste as good as the original is no longer true.

GLUTEN-FREE BAKING

Celiac disease is an autoimmune disorder of the small intestine that affects one in 100 people in the United States. It is caused by a reaction to a gluten protein found in wheat, rye, and barley and anything derived from these grains. Oats also make this list because they may contain gluten as a result of cross contamination from packaging. In the most extreme cases, these grains could be deadly for a celiac. The only effective treatment is a gluten-free diet.

As celiac disease has become more common, pastry chefs have worked to develop baked goods without the use of wheat, rye, barley, or oats. When making gluten-free products, it is important to make sure to use clean tools and surfaces, have separate cooking utensils, and, if possible, work in a room where wheat, barley, rye, or oats have not been present. It is imperative that no contamination occur when making gluten-free products.

Since wheat flour is not used in gluten-free baking, chefs must use different stabilizers as substitutes. Some of the possibilities include rice flour, potato starch, tapioca starch, whey powder, pulse flours, guar gum, and xanthan gum. Other ingredients that are safe to use are distilled alcohols and extracts, rather than fermented ones.

The strides made to allow celiac disease sufferers to enjoy breads and cakes and cookies are an important milestone in how far baking has come in the past decades.

BAKING FOR VEGANS

A vegan is a person who consumes only products of the plant kingdom, excluding eggs, dairy, and any other animal products (including honey).

Baking for vegans may seem nearly impossible, but many products have been developed that are vegan-friendly. Products that can be used for vegan baking include soy milk, soy margarine, vegetable oil, soy yogurt, tofu, flaxseed paste, arrowroot starch, whole wheat flour, oats, mashed sweet and regular potatoes, tahini and nut butters, and agar-agar.

5

FOOD AND KITCHEN SAFETY

The importance of storing and preparing food properly cannot be overemphasized. In addition to the precautions necessary to guard against food-borne illness, care must also be taken to avoid accidents involving staff or guests. Practicing and monitoring safe procedures will keep both your employees and customers safe from food-borne illness and injury.

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FOOD-BORNE ILLNESS

FOOD-BORNE ILLNESSES are caused by adulterated foods (foods unfit for human consumption). The source of contamination can be chemical, physical, or biological.

FOOD CONTAMINANTS

The most common symptoms of foodborne illnesses include abdominal cramps, nausea, vomiting, and diarrhea, possibly accompanied by fever. The symptoms may appear within a matter of hours after consumption of the affected food, but in some cases several days may elapse before onset. In order for foodborne illness to be officially declared an outbreak, it must involve two or more people who have eaten the same food, and it must be confirmed by health officials.

The severity of the illness depends on the amount of adulterated food ingested and, to a great extent, the individual's susceptibility. Children, the elderly, and anyone whose immune system is already under siege will generally have much more difficulty than a healthy adult in combating a food-borne illness.

The source of the contamination affecting the food can be chemical, physical, or biological. Insecticides and cleaning compounds are examples of chemical contaminants that may accidentally find their way into foods. Physical contaminants include such things as bits of glass, rodent hairs, and paint chips, which might cause injury as well as illness. Careless food handling can mean that an adhesive bandage or an earring could fall into the food and result in illness or injury.

Biological contaminants account for the majority of food-borne illnesses. These include naturally occurring poisons, known as *toxins*, found in certain wild mushrooms, rhubarb leaves, and green potatoes, among other plants. The predominant biological agents, however, are disease-causing microorganisms known as *pathogens*, which are responsible for up to 95 percent of all food-borne illnesses. Microorganisms of many kinds are present virtually everywhere, and most are helpful—even essential—or harmless; only about 1 percent of microorganisms are actually pathogenic.

Food-borne illnesses caused by biological contaminants fall into two subcategories: intoxication and infection. Intoxication occurs when a person consumes food containing toxins from bacteria, molds, or certain plants and animals. Once in the body, these toxins act as poison. Botulism is an example of an intoxication. In the case of an infection, the food eaten by an individual contains large numbers of living pathogens. These pathogens multiply in the body and usually attack the gastrointestinal lining. Salmonellosis is an example of an infection. Some food-borne illnesses have characteristics of both an intoxication and an infection. *E. coli* 0157:H7 is an agent that causes such an illness.

The specific types of pathogens responsible for food-borne illnesses are fungi, viruses, parasites, and bacteria.

Fungi, which include molds and yeast, are more adaptable than other microorganisms and have a high tolerance for acidic conditions. They are more often responsible for food spoilage than for food-borne illness. Fungi are important to the food industry in the production of cheese, bread, and wine and beer.

Viruses do not actually multiply in food, but if through poor sanitation practice a virus contaminates food, consumption of that food may result in illness. Infectious hepatitis, caused by eating shellfish harvested from polluted waters (an illegal practice) or by poor hand-washing practices after using the bathroom, is an example. Once in the body, viruses invade a cell (called the *host cell*) and essentially reprogram it to produce more copies of the virus. The copies leave the dead host cells behind and invade still more cells. The best defenses against food-borne viruses are purchasing shellfish only from certified waters and maintaining good personal hygiene.

Parasites are pathogens that feed on and take shelter in another organism, also called a host. The host receives no benefit from the parasite, and in fact suffers harm, or even death, as a result. Amoebas and various worms such as *Trichinella spiralis*, which is associated with pork, are among the parasites that contaminate foods. Different parasites reproduce in different ways. An example is the parasitic worm that exists in the larval stage in muscle meats. Even after it is consumed by a human being or another animal,

its life cycle, and reproductive cycle, continue.
When larvae reach adult stage, the fertilized females releases more eggs, which hatch and travel to the muscle tissue of the host, and the cycle continues.

Bacteria are responsible for a significant percentage of biologically caused food-borne illnesses. In order to better protect food during storage, preparation, and service, it is important to understand the classifications and patterns of bacterial growth. Bacteria are classified by their requirement for oxygen, by the temperatures at which they grow best, and by their spore-forming abilities. Aerobic bacteria require the presence of oxygen. Anaerobic bacteria do not require oxygen and may even die when exposed to it. Facultative bacteria are able to function with or without oxygen. In terms of sensitivity to temperature, bacteria fall into the following categories:

1. Mesophilic bacteria grow best between 60° and 100°F/16° and 38°C. Because the temperature of the human body as well as of commercial kitchens falls within that range, mesophilic bacteria tend to be the most abundant and the most dangerous.

2. Thermophilic bacteria grow most rapidly between 110° and 171°F/43° and 77°C.

3. Psychrophilic bacteria prefer cooler temperatures, between 32° and 60°F/0° and 16°C.

BACTERIAL GROWTH AND HAZARDOUS FOODS

Many bacteria reproduce by means of fission: One bacterium grows and then splits into two bacteria of equal size. These bacteria divide to form four, the four form eight, and so on. Under ideal circumstances, bacteria will reproduce every twenty minutes or so. In about twelve hours, one bacterium can multiply into sixty-eight billion bacteria, more than enough to cause illness.

Certain bacteria reproduce via sporulation: They are able to form endospores, which protect them against adverse circumstances such as high temperatures or dehydration. Endospores allow an individual bacterium to resume its life cycle if favorable conditions should recur.

Bacteria require three basic conditions for growth and reproduction: a protein source, readily available moisture, and a moderate pH level. The higher the amount of protein in a food, the greater its potential as a carrier of a food-borne illness. The amount of moisture available in a food is measured on the water activity (Aw) scale; this scale runs from 0 to 1, with 1 representing the Aw of water. Foods with a water activity above 0.85 can support bacterial growth.

A food's relative acidity or alkalinity is measured on the scale known as *pH*. A moderate pH—a value between 4.6 and 10 on the scale, which ranges from 1 to 14—is best for bacterial growth, and most foods fall within that range. Adding a highly acidic ingredient such as vinegar or citrus juice to a food can lower its pH and extend its shelf life, making it less susceptible to bacterial growth.

Many foods meet the three conditions necessary for bacterial growth and are therefore considered to be potentially hazardous. Meats, poultry, seafood, tofu, and dairy products (with the exception of some hard cheeses) are all categorized as potentially hazardous foods. Foods do not have to be animal-based to contain protein, and cooked rice, beans, pasta, and potatoes are also potentially hazardous, as are sliced melons, sprouts, and garlic-and-oil mixtures.

Food that contains pathogens in great enough numbers to cause illness may still look and smell normal. Disease-causing microorganisms are too small to be seen with the naked eye, so it is usually impossible to visually ascertain that food is adulterated. And because the microorganisms—particularly the bacteria—that cause food to spoil are different from the ones that cause food-borne illness, food may be adulterated and still have no "off" odor.

Although cooking will destroy many of the harmful microorganisms that may be present, careless food handling after cooking can reintroduce pathogens that will grow even more quickly, without competition for food and space from the microorganisms that cause spoilage. Although shortcuts and carelessness do not always result in food-borne illness, inattention to detail increases the risk of an outbreak that may cause serious illness or even death. The expenses a restaurant can incur as the result of an outbreak of food-borne illness can be staggering. In addition, negative publicity and loss of prestige are blows from which many restaurants can simply never recover.

PROPER HAND WASHING

TO CUT DOWN ON cross contamination and avoid spreading illness, wash your hands as often as you need to, and wash them correctly. The 1999 Food and Drug Administration (FDA) Model Food Code states that hands and forearms should be washed using soap and 110°F/43°C water for twenty seconds. Wash your hands at the beginning of each shift and each new task, after handling raw foods, after going to the bathroom, and after handling money or other nonfood items, to mention just a few points in the workday.

First wet your hands, then apply soap. Use enough soap to work up a good lather. Use a nail brush to clean under your nails and around the cuticles if necessary, and scrub well. (It takes about ten seconds to sing "Happy Birthday"; in order to be sure you have lathered for twenty seconds, try singing this song to yourself twice while washing your hands.) Rinse your hands thoroughly in warm water, and dry them completely using paper towels.

AVOID CROSS CONTAMINATION

Many food-borne illnesses are a result of unsanitary handling procedures in the kitchen. Cross contamination occurs when disease-causing elements or harmful substances are transferred from a contaminated surface to a heretofore uncontaminated one. To avoid cross contamination, adhere to the following practices.

Good personal hygiene is one of the best defenses against cross contamination. The employee who reports for work when he or she has a contagious illness or an infected cut on his or her hand puts every customer and other employees at risk. Any time your hands come in contact with a possible source of contamination, especially your face, hair, eyes, and mouth, they should be thoroughly washed before you continue work.

Food is at greatest risk of cross contamination during the preparation stage. Ideally, separate work areas and cutting boards should be used for raw and cooked foods. Equipment and cutting boards should always be cleaned and thoroughly sanitized between uses.

For example, before cutting a piece of pork on the same surface you used to cut chicken, it is important to clean and sanitize not only the cutting surface, but also your hands, the knife, and the sharpening steel. Wiping cloths for this purpose should be held in a double-strength sanitizing solution and placed near each workstation to encourage use.

All food must be stored carefully to prevent contact between raw and cooked items. (See "Receive and Store Foods Safely," page 81.) Do not handle ready-to-eat foods with bare hands. Instead, use a suitable utensil (deli tissue, spatula, tongs, or the like) or single-use food-handling gloves (intended to be used only for a single task and replaced before beginning a new task).

KEEP FOODS OUT OF THE DANGER ZONE

AN IMPORTANT WEAPON against pathogens is the observance of strict time and temperature controls. Generally, the disease-causing microorganisms found in foods need to be present in significant quantities in order to make someone ill. (There are exceptions, however, *E. coli* 0157:H7 being one.) Once pathogens have established themselves in a food source, they will either thrive or be destroyed, depending upon how long foods are in the danger zone of 41° to 140°F/5° to 60°C.

There are pathogens that can live at all temperature ranges. For most of those capable of causing food-borne illness, the friendliest environment is one with temperatures from 41° to 140°F/5° to 60°C—the danger zone. Most pathogens are either destroyed or will not reproduce at temperatures above 140°F/60°C. Storing food at temperatures below 41°F/5°C will slow or interrupt the cycle of reproduction. (It should be noted that intoxicating pathogens may be destroyed during cooking, but any toxins they have already produced are still there.)

When conditions are favorable, pathogens can reproduce at an astonishing rate. Therefore, controlling the time during which foods remain in the danger zone is critical to the prevention of food-borne illness. Foods left in the danger zone for longer than four hours are considered adulterated. Additionally, one should be fully aware that the four-hour period does not have to be continuous, but is in fact cumulative—which means that the meter starts running again each time the food enters the danger zone. Once the four-hour period has been exceeded, foods cannot be recovered by heating, cooling, or any other method.

RECEIVE AND STORE FOODS SAFELY

It is not unheard of for foods to be delivered to a food-service operation already contaminated. To prevent this from happening to you, inspect all goods to be sure they arrive in sanitary conditions. Make a habit of checking delivery trucks for signs of unsanitary conditions such as dirt or pests. If the truck is a refrigerated or freezer unit, check the ambient temperature inside to see that it is adequate. Use a thermometer to check the temperature of the product as well. Check expiration dates, and verify that foods have the required government inspection and certification stamps or tags. Randomly sample bulk items, as well as individual packages within cases. Reject any goods that do not meet your standards.

Once you have accepted a delivery, move the items immediately into proper storage conditions. Break down and discard cardboard boxes as soon as possible, because they provide nesting areas for insects, especially cockroaches.

Refrigeration and freezing units should be cleaned regularly. They should be equipped with thermometers to make sure that the temperature remains within a safe range. Although in most cases chilling will not actually kill pathogens, it does drastically slow down their reproduction.

In general, refrigerators should be kept at between 36° and 40°F/2° and 4°C, but quality is better served if certain foods can be stored at specific temperatures:

Meat and poultry	32° to 36°F/0° to 2°C
Fish and shellfish	30° to 34°F/−1° to 1°C
Eggs	38° to 40°F/3° to 4°C
Dairy products	36° to 40°F/2° to 4°C
Produce	40° to 45°F/4° to 7°C

Using separate refrigerators for each of these categories is ideal, but if necessary, a single unit can be divided into sections. The front of the box will be the warmest area, the back the coldest.

Reach-in and walk-in refrigerators should be put in order at the end of every shift. Before it is put in the refrigerator, food should be properly cooled, stored in clean containers, wrapped, and labeled clearly with the contents and date. Place drip pans beneath raw foods to catch drips and prevent splashing, and store raw products below and away from cooked foods to prevent cross contamination by dripping. Because air circulation is essential for effective cooling, avoid overcrowding the box, and make sure the fan is not blocked.

Do not stack trays directly on top of food: This will reduce the amount of air that can circulate and may also result in cross contamination. Use the principle of “first in, first out” (FIFO) when arranging food, so that older items are in the front.

Dry storage is used for foods such as canned goods, spices, condiments, cereals, and staples such as flour and sugar, as well as for some fruits and vegetables that do not require refrigeration and have low perishability. As with all storage, the area must be clean, with proper ventilation and air circulation. Foods should not be stored directly on the floor or against the walls, and there must be adequate shelving to prevent overcrowding. The FIFO system should be practiced here as well, and all containers should be labeled with a date. Cleaning supplies should be stored in a separate place from foods.

HOLD COOKED AND READY-TO-SERVE FOODS SAFELY

Keep hot foods hot and cold foods cold. Use hot-holding equipment (steam tables, double boilers, bain-maries, heated cabinets or drawers, chafing dishes, and so on) to keep hot foods at or above

140°F/60°C. (Do not use hot-holding equipment for cooking or reheating; it cannot be counted on to raise the temperature of the food through the danger zone quickly enough.)

Use cold-holding equipment (ice or refrigeration) to keep cold foods at or below 41°F/5°C. If using ice, the foods should be in a container of some sort, not directly on the ice. Use a perforated insert and drip pan to allow melting ice to drain away from foods.

COOL FOODS SAFELY

One of the leading causes of food-borne illness is improperly cooled foods. Cooked foods that are to be stored need to be cooled down to below 41°F/5°C as quickly as possible. Cooling to below 41°F/5°C should be completed within four hours or less, unless you use the two-stage cooling method endorsed by the FDA in its 1999 Model Food Code. In the first stage of this method, foods should be cooled down to 70°F/21°C within two hours; in the second stage, foods should reach 41°/5°C or below within an additional four hours, for a total cooling time of six hours.

The proper way to cool hot liquids is to transfer them to a metal container (plastic containers insulate rather than conduct heat), then place the container in an ice water bath that reaches the same level as the liquid inside the container. Bricks or a rack set under the container will allow the cold water to circulate better. Stir the liquid in the container frequently so that the warmer liquid at the center mixes with the cooler liquid at the edges of the container, bringing the overall temperature down more rapidly. Stirring also discourages potentially dangerous anaerobic bacteria from multiplying at the center of the mixture.

Semisolid and solid foods should be refrigerated in single layers in shallow containers, to allow greater surface exposure to the cold air and thus quicker chilling. For the same reason, cut large cuts of meat or other foods into smaller portions, cool to room temperature, and wrap before refrigerating.

REHEAT FOODS SAFELY

Improperly reheated foods are another frequent cause of food-borne illness. When foods are prepared ahead and then reheated before serving, they should move through the danger zone as rapidly as possible and be reheated to at least 165°F/74°C for at least fifteen seconds. As long as proper cooling and reheating procedures are followed each time, foods may be cooled and reheated more than once.

Food handlers must use the proper methods and equipment for reheating potentially hazardous foods, which should be brought to the proper temperature over direct heat (burner, flattop, grill, or conventional oven) or in a microwave oven. A steam table will adequately hold reheated foods above 140°F/60°C, but it will not bring foods through the danger zone quickly enough to be used for reheating them.

Always use an instant-read thermometer to check temperatures; carefully clean and sanitize the thermometer after each use.

THAW FROZEN FOODS SAFELY

Frozen foods can be safely thawed in several ways. Once thawed, they should be used as soon as possible, and for optimal quality and flavor should not be refrozen. The best—though slowest—method is to allow the food to thaw under refrigeration. The food, still wrapped, should be placed in a shallow container on a bottom shelf to prevent any drips from contaminating other items stored nearby or below.

If there isn't time to thaw foods in the refrigerator, covered or wrapped food can be placed in a container under running water that is approximately 70°F/21°C or below. Use a stream of water strong enough to wash loose particles of ice off the food, and do not allow the water to splash onto other food or surfaces. Be sure to clean and sanitize the sink both before and after thawing.

Individual portions that are to be cooked immediately can be thawed in a microwave oven. Liquids, small items, or individual portions can be cooked without thawing, but larger pieces of solid or semisolid foods that are cooked while still frozen become overcooked on the outside before they are thoroughly done throughout. Do not thaw food at room temperature; it is an invitation to pathogens.

SERVE FOODS SAFELY

The potential for transmitting food-borne illness does not end when the food leaves the kitchen. Restaurant servers should also be instructed in good hygiene and safe food-handling practices. They should wash their hands properly after using the bathroom, eating, smoking, touching their face or hair, and handling money, dirty dishes, or soiled table linens (particularly napkins). Ideally, some servers should be designated to serve foods and others should be responsible for clearing used dishes and linens.

Servers should touch only the edges and bottoms of plates as they transport them from kitchen to dining room. When setting tables, they should never touch the parts of flatware that will come in contact with food, and they should handle glassware by the stems or bases only.

Servers should clean side stands, trays, and tray stands before the start of each shift and as necessary during service. They should always fold napkins on a clean surface and handle used napkins as little as possible; table linens should only be used once. And they should serve all foods using the proper utensils; ice and rolls should be handled with tongs, never with fingers.

HAZARD ANALYSIS CRITICAL CONTROL POINTS (HACCP)

HACCP IS AN ACRONYM that is fast becoming commonly used in food service and food safety. It stands for Hazard Analysis Critical Control Points, which is a scientific state-of-the-art food safety program originally developed for astronauts. HACCP takes a systematic approach to the conditions that are responsible for most food-borne illnesses. It is preventive in nature: It attempts to anticipate how food safety problems are most likely to occur and takes steps to prevent them from occurring.

The HACCP system has been adopted by both food processors and restaurants, as well as by the FDA and USDA. At this time, there is no mandate that HACCP must be used by foodservice establishments. However, instituting such a plan may prove to be advantageous on a variety of levels.

If you decide to begin instituting HACCP procedures in your restaurant or bakeshop, you should know that an initial investment of time and human resources is required. It is becoming obvious, however, that this system can ultimately save money and time, as well as improve the quality of food you are able to provide your customers.

The heart of HACCP lies in the following seven principles:

1. **Assess the hazards.** The first step in an HACCP program is a hazard analysis of each menu item or recipe. It requires a close look at the process of putting that menu item together, beginning with the delivery of the starting ingredients. Every step in the process must be looked at by designing a flowchart that covers the period “from dock to dish.” In addition, it is best to have all persons involved in the flow of the food present when setting up an HACCP program, for the person receiving the food on the loading dock may have an important bit of information that can help set up the program and identify the true flow of food.

   The types of hazards you should be concerned with are the biological, chemical, or physical conditions that could cause a food to be unsafe for consumption. The biological hazards are typically microbiological, though the possibility of toxicity (such as from poisonous mushrooms) should not be ignored. Microbiological hazards include bacteria, viruses, and parasites.

2. **Identify the critical control points.** After you have established a flow diagram and identified the potential hazards, the next step is to identify the critical control points (CCPs). From the moment food is received at your food-service establishment, and throughout production, you have the ability to control what happens to that food (including not accepting it from your vendor if it does not meet your specifications).

   You must decide which of the different control points (steps) are critical ones. One of the most difficult aspects of putting together an HACCP program is making sure not to overidentify these critical control points, because that could lead to a cumbersome amount of paperwork. In addition, a profusion of CCPs could obscure the real control issues. A critical control point is the place in the utilization of the food in a restaurant or bakeshop where you have the ability to eliminate or reduce an existing hazard or to prevent or minimize the likelihood that a hazard will occur. According to the 1999 FDA Food Code, a critical control point is "a point or procedure in a specific food system where loss of control may result in an unacceptable health risk."

The cooking step, as a rule, is a critical control point. Other critical control points are usually associated with time-temperature relationships (thawing, hot holding, cold holding, cooling, and reheating). Some other considerations that should be addressed in identifying a critical control point are as follows: At this step, can food be contaminated? Can the contaminants increase or survive? Can this hazard be prevented through some kind of intervention (commonly referred to as *corrective action*)? Can hazards be prevented, eliminated, or reduced by steps taken earlier or later in the flow? And can you monitor, measure, and document the CCP?

3. **Establish critical limits and control measures.** Critical limits are generally standards for control measures at each critical control point. Many will have already been established by local health departments, but you may want to establish new critical limits for your food operation that exceed the regulatory standard, or establish a new standard that meets with health department approval. (The 1999 FDA Food Code refers to these possibilities as "variances.")

By way of example, an established critical limit for the cooking step in preparing a chicken dish is a 165°F/74°C final internal temperature. This critical limit prevents the possibility of a patron contracting salmonellosis. If you were to hold this chicken on the line before actual service, it would have to be kept at 140°F/60°C to prevent any proliferation of pathogenic microbes. Holding would be a step in the process that would be considered critical.

Control measures are what you can do ahead of time to facilitate the achievement of your critical limit. For example, when preparing to cook chicken to 165°F/74°C, you should make sure your equipment is working well. Before you roast chicken, you should preheat the oven. If you are going to monitor the temperature of the chicken with a thermometer, you should make sure it is accurately calibrated. You also have to know how to cook and how to take internal temperatures. Therefore, training is often a control measure, too.

4. **Establish procedures for monitoring CCPs.** The critical limits for each critical control point must identify what is to be monitored. You must also establish how the CCP will be monitored and who will do it. For example, one employee may be designated to monitor the temperature of the roasting chicken. For each batch, the employee should be instructed to check the internal temperature of the largest chicken and the one in the middle of the pan.

Monitoring helps improve the system by allowing for the identification of problems or faults at any particular point in the process. This allows for more control or improvement in the system because it provides an opportunity to take corrective action if a critical limit was not met. Monitoring lets you know if the desired results were achieved. In the example of the chicken, was it indeed cooked to an acceptable temperature?

5. **Establish corrective action plans.** If a deviation or substandard level occurs for any step in the process, a plan of action must be identified. For example, if the roasted chicken was held at an incorrect temperature (120°F/49°C) for too long in a steam table, the corrective action would be to discard it. If frozen fish arrives from the purveyor with a buildup of ice, indicating that it has been defrosted and refrozen again, the fish should be rejected. Specific corrective actions must be developed for each CCP, because the handling and preparation of each food item can vary greatly from one kitchen to the next.

6. **Set up a record-keeping system.** Keep documentation on hand to demonstrate whether or not the system is working. Recording events at CCPs ensures that critical limits are met and preventive monitoring is occurring. Documentation typically consists of time-temperature logs, checklists, and forms.

It is important to keep the forms readily accessible and easy to fill out. Keeping a temperature log on a clipboard at a grill station and recording internal temperatures of one out of every ten orders that go out to customers would be a realistic responsibility for a line cook. Having reliable and accurately calibrated thermometers on hand is also necessary. Do not make the logs or forms too complicated or cumbersome: This could encourage "dry lab," that is, the falsifying of records.

7. **Develop a verification system.** This step is essentially establishing procedures to ensure that the HACCP plan is working correctly. Have a supervisor, executive chef, or outside party verify that the plan is working. If procedures are not being followed, try to find out what modifications you can make so the plan works better. The most difficult part of putting an HACCP program plan together is going through it the first time. After the initial paperwork, it essentially involves monitoring and recording. As your employees become accustomed to filling out the forms correctly, they will be establishing positive behaviors that promote food safety. These new behaviors will naturally spill over into the preparation of other recipes, making the development of an HACCP program plan for each new dish easier.

The way in which an individual operation may apply these principles will vary. Adapt the system as necessary to fit your establishment's style. Chain restaurants, for example, receive and process foods differently from à la carte restaurants.

CLEAN AND SANITIZE

CLEANING REFERS TO the removal of soil or food particles, whereas sanitizing involves using moist heat or chemical agents to kill pathogenic microorganisms. For equipment that cannot be immersed in a sink, and for equipment such as knives and cutting boards during food preparation, use a wiping cloth, soaked in a double-strength sanitizing solution and then wrung out, to clean and sanitize the equipment between uses. Iodine, chlorine, or quaternary ammonium compounds are common sanitizing agents. Check the manufacturer's instructions for procedures for use.

Small equipment, tools, pots, and tableware should be run through a ware-washing machine or washed manually in a three-compartment sink. The many kinds of ware-washing machines all use some sanitation method, such as very hot water (usually 180° to 195°F/82° to 91°C) or chemical agents.

Hard water, which contains high levels of iron, calcium, or magnesium, may interfere with the effectiveness of detergents and sanitizing agents and may also cause deposits that can clog machinery. Water-softening additives can prevent these problems.

After sanitizing, equipment and tableware should be allowed to air-dry completely; using paper or cloth toweling could result in cross contamination.

KEEP OUT PESTS

CAREFUL SANITATION PROCEDURES, proper handling of foods, and a well-maintained facility all work together to prevent a pest infestation. Besides being destructive and unpleasant, rats, mice, roaches, and flies may harbor various pathogens. Take the following steps to prevent infestation:

- Clean all areas and surfaces thoroughly.
- Wipe up spills immediately and sweep up crumbs.
- Cover garbage, and remove it every four hours.
- Elevate garbage containers on concrete blocks.
- Keep food covered or refrigerated.
- Check all incoming boxes for pests and remove boxes as soon as items are unpacked.
- Store food away from walls and floors, and maintain cool temperatures and good ventilation.
- Prevent pests from entering the facility by installing screened windows and screened self-closing doors.

- Fill in all crevices and cracks, repair weak masonry, and screen off any openings to buildings, including vents, basement windows, and drains.
- If necessary, consult a professional exterminator.

KITCHEN SAFETY

THE FOLLOWING SAFETY measures should be practiced.

HEALTH AND HYGIENE

Maintain good general health; have regular physical and dental checkups. Do not handle food when ill. Cover your face with a tissue when coughing or sneezing, and wash your hands afterward.

Attend to cuts or burns immediately. Keep any burn or break in your skin covered with a clean waterproof bandage, and change it as necessary.

Observe the fundamentals of good personal hygiene. Keep hair clean and neat, and contain it if necessary. Keep fingernails short and well maintained, without polish. Keep your hands away from your hair and face when working with food. Do not smoke or chew gum when working with food.

Begin each shift in a clean, neat uniform. Do not wear your uniform to or from work or school. Store the uniform and all clothing in a clean locker. Do not wear jewelry other than a watch and a plain ring, to reduce risk of personal injury and cross contamination.

WORK SAFELY

In addition to the precautions necessary to guard against food-borne illness, care must be taken to avoid accidents to staff and guests.

- Clean up grease and other spills as they occur. Use salt or cornmeal to absorb grease, then clean the area.
- Warn coworkers when you are coming up behind them with something hot or sharp.
- Alert the pot washer when pots, pans, and handles are especially hot.
- Beware of grill fires. If one occurs, do not attempt to put it out with water. Removing excess fat and letting any marinades drain completely from foods to be grilled will help prevent flare-ups.
- Keep fire extinguishers in proper working order and place them in areas of the kitchen where they are most likely to be needed.
- Remove lids from pots in such a manner that the steam vents away from your face, to avoid steam burns.
- Bend at the knees, not the waist, to lift heavy objects.
- Pick up anything on the floor that might trip someone.
- Learn about first aid, CPR, and mouth-to-mouth resuscitation. Have well-stocked first-aid kits on hand (see “First-Aid Supplies,” page 87).
- Make sure that all dining room and kitchen staff know how to perform the Heimlich maneuver on a choking person. Post instructions in readily visible areas of the kitchen and dining room.
- Handle equipment carefully, especially knives, mandolines, slicers, grinders, band saws, and other equipment with sharp edges.
- Observe care and caution when operating mixers. Always keep your hands away from an operating mixer.
- Use separate cutting boards for cooked and raw foods, and sanitize after using.
- Wash hands thoroughly after working with raw foods.
- Use tasting spoons, and use them only once—do not “double-dip.” Do not use your fingers or kitchen utensils when tasting food.
- Store any toxic chemicals (cleaning compounds and pesticides, for example) away from food to avoid cross contamination.
- Use only dry side towels for handling hot items.

••• Use instant-read thermometers (and sanitize them after use) to ensure that adequate temperatures are reached.

••• Post emergency phone numbers near every phone.

FIRST-AID SUPPLIES

Adhesive strips in assorted sizes

Bandage compresses

Sterile gauze dressings, individually wrapped

Rolled gauze bandages

First-aid adhesive tape

Cotton swabs (for applying antiseptic or removing particles from eyes)

Tourniquet

Tongue depressors (for small splints)

Scissors

Tweezers

Needles (for removing splinters)

Rubbing alcohol (for sterilizing instruments such as tweezers and needles)

Mild antiseptic (for wounds)

Antibiotic cream

Syrup of ipecac (to induce vomiting)

Petroleum jelly

PRACTICE FIRE SAFETY

It takes only a few seconds for a simple flare-up on the grill or in a pan to turn into a full-scale fire. Grease fires, electrical fires, or even a waste container full of paper going up when a match is carelessly tossed into it are easy to imagine happening in any busy kitchen. A comprehensive fire-safety plan should be in place and a standard part of all employee training.

The first step in avoiding fires is to make sure that the entire staff, both kitchen and dining room, is fully aware of the potential dangers of fire everywhere in a restaurant. If you see someone handling a situation improperly, first get the situation under control, then take the time to explain what your concern is and how to avoid the situation in the future.

Next, be sure that all equipment is up to code. Frayed or exposed wires and faulty plugs can all too easily be the cause of a fire. Overburdened outlets are another common culprit. Any equipment that has a heating element or coil must also be maintained carefully, both to be sure that workers are not likely to be burned and to prevent fires.

Thorough training is another key element in any good fire-safety program. Everyone should know what to do in case of a fire. Having frequent fire drills is a good idea. Instruct your kitchen staff in the correct way to handle grill fires and grease fires.

There should also be fire extinguishers in easily accessible areas. Check each extinguisher to see what type of fire it is meant to control, and make sure you and your staff understand when and how to operate each type.

Proper maintenance of extinguishers and timely inspections by your local fire department are vital. Fire-control systems, such as an Ansul system, also need to be serviced and monitored so that they will perform correctly if you need them. Above all, make sure you never try to put out a grease, chemical, or electrical fire by throwing water on the flames.

Everyone should know where the fire department number is posted and who is responsible for calling the department if necessary.

The exits from any area of the building should be easy to find, clear of any obstructions, and fully operational. Your guests may have to rely on you and other staff to get them safely out of the building. Identify one spot outside the building, at a safe distance, where everyone should assemble after they've exited safely. Then you will be able to tell immediately who may still be inside the building and need to be rescued by firefighters.

The main rule for fire is to be prepared for all possibilities. You cannot assume it won't happen to you.

DRESS FOR SAFETY

More than simply completing the look of the chef, the parts of the typical chef's uniform play important roles in keeping workers safe as they operate in a potentially dangerous environment.

The chef's jacket is double-breasted, which creates a two-layer cloth barrier against steam burns, splashes, and spills. The design also means that the jacket can easily be rebuttoned on the opposite side to cover up spills. The jacket sleeves are long, to protect against burns and scalding splashes, and they should not be rolled up.

The same is true of pants. Shorts, while they may seem like a good idea for a hot environment, are inappropriate because they offer no protection. Pants should be worn without cuffs, which can trap hot liquids and debris. Ideally, pants should have a snap fly and be worn without a belt; if hot grease is spilled on the legs, this allows for fast removal of the pants, which could lessen the severity of the burn.

Be it a tall white toque or a favorite baseball cap, chefs wear hats to contain their hair, preventing it from falling into the food. Hats also help absorb sweat. Neckerchiefs serve a similar sweat-absorbing role. The apron protects the jacket and pants from excessive staining.

Most chefs use side towels to protect their hands when working with hot pans, dishes, or other equipment. They are not meant to be used as wiping cloths—side towels used to lift hot items must be dry in order to provide protection; once they become even slightly damp, they can no longer insulate properly.

While athletic shoes are very comfortable, they are not ideal for working in a kitchen. If a knife should fall from a work surface, most athletic shoes would offer very little protection. Hard leather shoes with slip-resistant soles are recommended, because of both the protection they offer and the support they give your feet.

Jackets, pants, side towels, aprons, and shoes can harbor bacteria, molds, parasites, and even viruses. Because these pathogens can be transmitted with ease from your uniform to foods, a sanitary uniform is important. Wear your uniform at work only, not when traveling to and from the job, where you can pick up pathogens along the way.

Proper laundering can sanitize your uniform to make it safe and clean. If your establishment doesn't use a laundry or uniform service, use hot water, a good detergent, and a sanitizer such as borax or chlorine bleach to remove bacteria and grime. Automatic dish-washing soap (used in household machines) contains an enzyme to help break up stuck-on food. These same enzymes can help to release food stains on uniforms. Add a half-cup of dry household dishwasher detergent to the wash water.

REGULATIONS, INSPECTION, AND CERTIFICATION

FEDERAL, STATE, AND LOCAL government regulations attempt to ensure the wholesomeness of food that reaches the public. Any new food-service business should contact the local health department well in advance of opening to ascertain the necessary legal requirements. A professional chef moving to a new area to work should contact local authorities for ordinances specific to that area. Some states and local jurisdictions offer sanitation certification programs. Certification is also available through certain academic institutions.

THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

OSHA is a federal organization, instituted in 1970, that falls under the purview of the Health and Human Services Administration. Its goal is helping employers and workers to establish and maintain a safe, healthy work environment.

Among OSHA's regulations is the mandate that all places of employment have an adequate and easily accessible first-aid kit on the premises. In addition, any organization that has more than ten employees must keep records of all accidents and injuries to employees that require medical treatment. Any employee requests for improvements in the safety of the workplace, including repair or maintenance of the physical plant and equipment necessary to perform one's job, must be attended to by the organization.

As money for many health and human service organizations has dwindled, OSHA's ability to make on-site inspections has also been reduced. It now concentrates its efforts on providing services where the risk to worker safety is greatest. This does not mean that small businesses can operate with impunity, for any employee can call OSHA's offices and report violations.

AMERICANS WITH DISABILITIES ACT OF 1990

This act is intended to make public places accessible and safe for those with a variety of disabilities. Any new construction or remodeling done to a restaurant must meet ADA standards. They include, for example, providing telephones located so that they can be reached by a person in a wheelchair, and toilets with handrails. Most contractors will have the necessary information, but if you are unsure, contact a local agency.

A SPECIAL NOTE ABOUT SMOKERS

Many restaurants have banned smoking, whether voluntarily as a result of public pressure or because of legislative mandates. While this may improve the air quality within the restaurant itself and provide a more pleasant dining experience for nonsmoking guests, there is one thing that should be kept in mind: Simply banning smoking in the dining room and the bar may not ban smoking from the entire premises. Common sense will tell you that smokers will very likely smoke cigarettes up to the moment they walk in the door and light up as soon as they step back outside. One carelessly flung match or a single smoldering cigarette butt can spell ruin.

Place sand-filled buckets or urns near the areas where you expect or prefer to have smokers take their cigarette breaks. If you do allow smoking in your restaurant, make sure that bartenders, bus people, and wait staff have a safe way to dispose of the contents of ashtrays.

Of course, smoking should never be allowed in the kitchen area.

DRUGS AND ALCOHOL IN THE WORKPLACE

ONE FINAL TOPIC that is of great importance in the workplace is the right of all workers to be free from the hazards imposed by a coworker who comes to work under the influence of drugs or alcohol. The abuse of any substance that can alter or impair one's ability to perform his or her job is a serious concern. Reaction times may be slowed, and the ability to concentrate and to comprehend instructions reduced. Inhibitions are often lowered, and judgment is generally impaired. As a result, people's safety or even their lives can be at stake. A poorly judged effort when emptying the hot oil from the deep fryer could result in permanent disability. A playful attempt at passing a knife could put out an eye. Forgetting to take the time to properly store and reheat foods could lead to an outbreak of foodborne illness that could kill someone.

The responsibilities of a professional working in any kitchen are too great to allow someone suffering from a substance abuse problem to diminish the respect and trust you have built with your customers and staff.

6

BAKING FORMULAS AND BAKERS' PERCENTAGES

A baker or pastry chef needs to perform a number of key calculations in order to have consistently successful results and work efficiently. This chapter provides a brief overview of some of the basic mathematical formulas and calculations used in the bakeshop and pastry kitchen to create standardized production formulas, increase or decrease a formula's yield (a technique known as scaling), and adjust to different production needs.

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PHILA

BAKING FORMULAS

ALWAYS READ THROUGH any formula completely before you start. The formula may require a special piece of equipment or a component made separately. Or perhaps the formula makes only ten servings and you need to make fifty. In that case, you will have to scale the formula (see "Formula Calculations," page 93). In increasing or decreasing a formula, you may discover that you need to make equipment modifications as well.

Once you have read through and evaluated or modified the formula, assemble your equipment and ingredients—the baker's mise en place. In many formulas, the ingredients list will indicate how the ingredient should be prepared (for example, sifted, melted, or cut into pieces of a certain size) before the actual mixing or assembling begins.

SCALING WITH PRECISION

Accurate scaling is vital for the best and most consistent results.

INGREDIENTS ARE PURCHASED and used following one of three measuring conventions: count, volume, or weight. They may be purchased according to one system but measured in another for use in a formula.

Count is a measurement of whole items. The terms each, bunch, and dozen all indicate units of count measure. If an individual item has been processed, graded, or packaged according to established standards, count can be a useful, accurate way to measure that ingredient. It is less accurate for ingredients requiring some preparation before they are added to the formula or for those without any established standards for purchasing. Apples illustrate the point well. If a formula calls for ten apples, then the yield, flavor, and consistency of the item will change depending upon whether the apples you use are large or small.

Volume is a measurement of the space occupied by a solid, liquid, or gas. The terms teaspoon (tsp), tablespoon (tbsp), fluid ounce (fl oz), cup, pint (pt), quart (qt), gallon (gal), milliliter (mL), and liter (L) all indicate units of volume measure. Graduated containers (measuring cups) and utensils with a precise volume (such as a 2-ounce ladle or a teaspoon) are used to measure volume. Volume measurements are best suited to liquids, though they are also used for dry ingredients, such as spices, in small amounts. Keep in mind that tools used for measuring volume are not always as precise as they should be. Volume measuring tools need not conform to any regulated standards, so the amount of an ingredient measured with one set of spoons, cups, or pitchers could be quite different from the amount measured with another set. (To learn more about converting volume measures to weight measures, see the table in "Converting to a Common Unit of Measure," page 94.)

Weight is a measurement of the mass or heaviness of a solid, liquid, or gas. The terms ounce (oz), pound (lb), gram (g), and kilogram (kg) all indicate units of weight measure. Scales are used to measure weight, and they must meet specific standards for accuracy regulated by the U.S. National Institute of Standards and Technology's Office of Weights and Measures. (See "Scales" in Chapter 3, page 40, for more about using scales.) In professional kitchens, weight is usually the preferred type of measurement because it is easier to be accurate with weight than with volume measurements.

STANDARDIZED FORMULAS

THE FORMULAS USED IN a professional baking and pastry setting must be standardized. Unlike published formulas meant to work in a variety of settings for a wide audience, standardized formulas suit the specific needs of an individual pastry kitchen or bakeshop. Preparing well written and accurate standardized formulas is a big part of the professional pastry chef's or baker's work, as these are records that include much more than just ingredient names and preparation steps. Standardized formulas establish overall yields, serving sizes, holding and serving practices, and plating information. They set standards for equipment as well as temperatures and times for cooking or baking. These standards help to ensure consistent quality and quantity, and they permit pastry chefs and bakers to gauge the efficiency of their work and reduce costs by eliminating waste as appropriate.

In addition, the wait staff must be familiar enough with an item or plated dessert to be able to answer any questions a customer might have. For example, the type of nuts used in an item may matter very much to an individual who has a nut allergy.

Standardized formulas can be handwritten or stored on a computer, using a formula management program or other such database or program. The formulas should be written in a consistent, clear, easy-to-follow format and be readily accessible to the entire staff. The pastry chef or baker should instruct pastry kitchen or bakeshop staff to follow standardized formulas to the letter unless otherwise instructed, as well as encourage service staff to refer to standardized formulas when a question arises about ingredients or preparation methods.

As you prepare a standardized formula, be as precise and consistent as possible. Include as many of the following elements as necessary:

Name or **title** of the food item or dish

Yield for the formula, expressed as one or more of the following: total weight, total volume, or total number of servings

Portion information for each serving, expressed as one or more of the following: number of items (count), volume, or weight

Ingredient names, expressed in appropriate detail (specifying variety or brand as necessary)

Ingredient measures, expressed as one or more of the following: count, volume, or weight

Ingredient preparation instructions, sometimes included in the ingredient name, sometimes included in the method as a separate step

Equipment information for preparation, cooking, storing, holding, and serving

Preparation steps detailing mise en place, mixing, cooking or baking, and temperatures for safe food handling (see also "Hazard Analysis Critical Control Points (HACCP)," in Chapter 5, page 83

Service information, including how to finish and plate the dessert; sauces and garnishes, if any; and proper service temperatures

Holding and reheating procedures, including equipment, times, temperatures, and safe storage

Critical control points (CCPs) at appropriate stages in the formula, to indicate temperatures and times for safe food-handling procedures during storage, preparation, holding, and reheating (to learn more about CCPs, see "Identify the Critical Control Points," in Chapter 5, page 83)

FORMULA CALCULATIONS

Often you will need to modify a formula. Sometimes the yield must be increased or decreased. You may be adapting a formula from another source to a standardized format, or you may be adjusting a standardized formula for a special event, such as a banquet or a reception. You may need to convert from

A variety of volume measuring tools are useful when adapting formulas originally written in common household measures.

volume measures to weight, or from metric measurements to the U.S. system. Or you may want to determine how much the ingredients in a particular formula cost.

THE FORMULA CONVERSION FACTOR (FCF)

To increase or decrease the yield of a formula, you need to determine the formula conversion factor. Once you know that factor, you then multiply all the ingredient amounts by it and convert the new measurements into appropriate formula units for your pastry kitchen or bakeshop.

This may require converting items listed by count into weight or volume measurements, or rounding measurements to reasonable quantities. And in some cases you will have to make a judgment call about those ingredients that do not scale up or down exactly, such as spices, salt, thickeners, and leaveners.

$$\frac{\text{Desired yield}}{\text{Original yield}} = \text{Formula conversion factor (FCF)}$$

The desired yield and the original yield must be expressed in the same way before you can use the formula; that is, both must be in the same unit of measure. For example, if the original formula gives the yield in ounces and you want to make 2 quarts of the sauce, you will need to convert quarts into fluid ounces. Or, if your original formula says that it makes five servings and does not list the size of each serving, you may need to test the formula to determine the serving size.

CONVERTING TO A COMMON UNIT OF MEASURE

To convert measurements to a common unit (by weight or volume), use the chart on the next page. This information can be used both to convert scaled measurements into practical and easy-to-use formula measures and to determine costs. For additional conversion charts, see Appendix C: Conversions, Equivalents, and Calculations on page 1084.

For some ingredients, straightforward multiplication or division is all that is needed. To increase a formula for poached pears from five servings to fifty, for example, you would simply multiply five pears by ten; no further adjustments are necessary. But once you have converted them, some other ingredient amounts may need some fine-tuning. You may need to round off a result or convert it to the most logical unit of measure. And measures for ingredients such as thickeners, spices, seasonings, and leavenings, for example, should not always be simply multiplied or divided. If a formula that makes six 6-in/15-cm cakes requires ½ oz/14 g of baking powder, it is not necessarily true that you will need 3 oz/90 g of baking powder to leaven six times the amount of the same batter if you are mixing it all in one batch. In such cases, the only way to be sure is to test the new formula and adjust it until you are satisfied with the result.

Other considerations when converting formula yields include the equipment you have, the production issues you face, and the skill level of your staff. Rewrite steps as necessary to suit the realities of your establishment at this point. It is important to do this now, so you can discover any further changes to

FORMULA MEASURE	COMMON VOLUME CONVERSION	COMMON UNIT (U.S.)	COMMON UNIT (METRIC)
1 ounce (oz)	N/A*	1 ounce (oz)	30 grams (g)**
1 pound (lb)	N/A*	16 ounces (oz)	454 grams (g)
1 tablespoon (tbsp)	3 teaspoons (tsp)	½ fluid ounce (fl oz)	30 milliliters (mL)
1 cup	16 tablespoons (tbsp)	8 fluid ounces (fl oz)	240 milliliters (mL)
1 pint (pt)	2 cups	16 fluid ounces (fl oz)	480 milliliters (mL)
1 quart (qt)	2 pints (pt)	32 fluid ounces (fl oz)	960 milliliters (mL)
1 gallon (gal)	4 quarts (qt)	128 fluid ounces (fl oz)	3.75 liters (L)

*Most liquids convert uniformly from weight to volume; different solids and semisolids convert differently from weight to volume.

**The actual metric conversion for 1 ounce is 28.35 grams. The ounce conversions throughout this book have been rounded to the nearest 10 grams for ease of use and practicality. Exceptions to this rule are for amounts that are ½ ounce or less and for certain ingredients such as fats, leaveners, salt, and hydrocolloids.

the ingredients or methods that the new yield might require. For instance, to mix enough bread dough to make ten 1-lb/454-g loaves of bread requires a large mixer, but if you only want to make two 1-lb/454-g loaves, you need a much smaller mixing bowl. The smaller batch of dough would fit in the large mixing bowl, but there would not be enough dough for the mixer to be able to mix and develop the structure for the bread properly.

CONVERTING FOR A DIFFERENT NUMBER OF SERVINGS

Sometimes you need to modify the total yield of a formula to obtain a different number of servings.

$$\text{Number of servings} \times \text{Serving size} = \text{Total yield}$$

For instance, you may have a sauce formula that makes four servings of 2 fl oz/60 mL each, but you want to make forty servings of 2 fl oz/60 mL each. To make the conversion:

First determine the total original yield of the formula and the total desired yield.

$$4 \times 2 \text{ fl oz} = 8 \text{ fl oz (total original yield)}$$

$$40 \times 2 \text{ fl oz} = 80 \text{ fl oz (total desired yield)}$$

Then determine the formula conversion factor.

$$\frac{80 \text{ fl oz}}{8 \text{ fl oz}} = 10 \text{ (the formula conversion factor or FCF)}$$

Modify the formula as described above by multiplying formula measures by 10.

CONVERTING FOR A DIFFERENT SERVING SIZE

Sometimes you need to modify the total yield of a formula to obtain a different number of servings of a different size.

For instance, you may have a sauce formula that makes four servings of 2 fl oz/60 mL each, but you want to make twenty 3-fl oz/90-mL servings. To make the conversion:

First determine the total original yield of the formula and the total desired yield.

$$4 \times 2 \text{ fl oz} = 8 \text{ fl oz (total original yield)}$$

$$20 \times 3 \text{ fl oz} = 60 \text{ fl oz (total desired yield)}$$

Then determine the formula conversion factor.

$$\frac{60}{8} = 7.5 \text{ (the formula conversion factor or FCF)}$$

Modify the formula as described above by multiplying formula measures by 7.5.

VOLUME VERSUS WEIGHT MEASURE

In the professional bakery or pastry shop, most ingredients are measured by weight. When creating standardized formulas for common use, consistency of quality and flavor is the most important objective. Weight is more accurate, leaving less room for error. If a formula is found or developed in volume

USING MEASURES FOR VOLUME FOODSERVICE

PASTRY CHEFS WORKING in high-volume locations, such as hotels or banquet halls, can face the challenge of creating menus for hundreds, if not thousands, of guests. Whether planning the room service menu for a 500-room hotel, mignardises for a wedding of two hundred, or plated desserts at a benefit gala, high numbers and limited staffing can present a number of obstacles.

Though custom menus might be designed for special events, it is likely that a catering hall or hotel might have standard menus or selections from which customers can choose. It is helpful to offer items that are tailored to the season for low food cost and high quality of ingredients, and so a kitchen might have four or more menus that they rotate throughout the year. It is common for customers to request items that are not in season or part of the venue's typical offerings. It will be up to the pastry chef to decide how to accommodate these requests; flexibility is important to a guest, but it cannot come at the expense of quality.

After deciding on the menu, the standardized recipe will need to be scaled and tested to make sure that it works for a larger volume of people. It is especially important to test recipes that include yeast or leaveners because the amount will often need to be adjusted when the recipe is scaled up. Depending on the number and type of items on the buffet, the portion size may need to be adjusted when serving desserts at high volumes. Be sure to note this as the recipes are being scaled up.

In addition to scaling and testing considerations, there are many considerations when choosing items for high-volume production. When a guest count is numbering in the hundreds or more, plating and service becomes a major factor in choosing the menu. Most items should have components that can be made ahead and stored without compromising quality. These items might include tart shells, custard fillings, or chocolate décor. Any pieces that must be made close to service should be kept at a minimum. If being arranged on a buffet, special consideration must be taken to how the items will keep at room temperature or any items that might require an ice bath. If an item is particularly sensitive, the pastry chef may choose to present it at an action station, where components are assembled to order in front of the customer.

When planning items for large parties, the pastry chef might want to prepare items to satisfy guests with dietary restrictions. Common requests include desserts that are sugar free, gluten free, or vegetarian. In the past, kitchens would often send out fruit plates to accommodate guests, but as the demand for these items increases, pastry chefs are becoming more creative, and special-diet desserts are sometimes integrated into the standard menu. It is not uncommon for a host to present the chef with any special requests of this nature while planning the menu.

measurements it should be converted to weight for professional use.

CONVERTING VOLUME MEASURES TO WEIGHT

Confusion often arises between weight and volume measures when ounces are the unit of measure.

It is important to remember that weight is measured in ounces (oz) and volume is measured in fluid ounces (fl oz). A standard volume measuring cup is equal to 8 fl oz, but the contents of the cup may not always weigh 8 oz/227 g. One cup (8 fl oz/240 mL) of shredded fresh coconut weighs just under 3 oz/84 g, but 1 cup (8 fl oz/240 mL) of peanut butter weighs 9 oz/255 g. Since measuring dry ingredients by weight is much more accurate, it is the preferred and most common method used for measuring dry ingredients in professional kitchens and bakeshops.

Water is the only substance for which it can be safely assumed that 1 fl oz/30 mL (a volume measure) equals 1 oz/28 g by weight. But you can convert the volume measure of another ingredient into a weight if you know how much a cup of the ingredient (prepared as required by the formula) weighs. This information is available in a number of charts or ingredients databases. You can also calculate and record the information yourself:

- Record a description of the ingredient, and the way it is received (whole, frozen, chopped, canned, etc.).
- Prepare the ingredient as directed by the formula (sift flour, roast nuts, chop or melt chocolate, drain items packed in syrup, and so on). Record this advance preparation, too.
- Measure the ingredient carefully according to the formula, using nested measures for dry ingredients or liquid cups or pitchers for liquid ingredients (see “Volume Measures” in Chapter 3, page 41, for measuring techniques).
- Set up your scale and set it to tare (see “Scales” in Chapter 3, page 40).
- Weigh the ingredient.
- Finally, record the weight of the ingredient, noting all the advance preparation steps involved (sifting, melting, chopping, and so forth).

CONVERTING BETWEEN U.S. AND METRIC MEASUREMENT SYSTEMS

THE METRIC SYSTEM USED throughout the rest of the world is a decimal system, meaning that it is based on multiples of ten. The gram is the basic unit of weight, the liter the basic unit of volume, and the meter the basic unit of length. Prefixes added to the basic units indicate larger or smaller units.

The U.S. system uses ounces and pounds to measure weight, and teaspoons, tablespoons, fluid ounces, cups, pints, quarts, and gallons to measure volume. Unlike the metric system, the U.S. system is not based on multiples of a particular number, so it is not as simple to increase or decrease quantities. Rather, the equivalencies of the different units of measure must be memorized or derived from a chart.

Most modern measuring equipment is capable of measuring in both U.S. and metric units. If, however, a formula is written in a system of measurement for which you do not have the proper measuring equipment, you will need to convert to the other system.

To convert ounces and pounds to grams: Multiply ounces by 28.35 to determine grams; divide pounds by 2.2 to determine kilograms.

To convert grams to ounces or pounds: Divide grams by 28.35 to determine ounces; divide grams by 454 to determine pounds.

To convert fluid ounces to milliliters: Multiply fluid ounces by 30 to determine milliliters.

To convert milliliters to fluid ounces: Divide milliliters by 30 to determine fluid ounces.

To convert Celsius to Fahrenheit: Multiply the degrees Celsius by 9, divide the result by 5, and add 32 to get the Fahrenheit equivalent:

$$\frac{°\text{C} \times 9}{5} + 32 = °\text{F}$$

To convert Fahrenheit to Celsius: Subtract 32 from the degrees Fahrenheit, multiply the result by 5, and divide the result by 9 to get the Celsius equivalent:

$$\frac{(°\text{F} - 32) \times 5}{9} = °\text{C}$$

METRIC PREFIXES

kilo (k) = 1000; 1 kg = 1000 g
hecto = 100
deka = 10
deci = 1⁄10 or 0.1
centi = 1⁄100 or 0.01
milli = 1⁄1000 or 0.001

CALCULATING AS-PURCHASED COST PER UNIT (APC)

MOST FOOD ITEMS purchased from suppliers are packed and priced by wholesale bulk sizes (crate, case, bag, carton, and so on). In kitchen production, the packed amount is generally broken down and often used for several different items. Therefore, in order to assign the correct prices to the formula being prepared, it is necessary to convert purchase pack prices to unit prices, expressed as price per pound, per single unit, per dozen, per quart, and the like.

To find the cost of a unit in a pack with multiple units, divide the as-purchased cost of the pack by the number of units in the pack.

$$\frac{\text{Total cost}}{\text{Number of units}} = \text{Cost per unit (APC)}$$

$$\text{Number of units} \times \text{Cost per unit} = \text{Total Cost}$$

CALCULATING YIELD PERCENTAGE OF FRESH FRUITS AND VEGETABLES

FOR MANY FOOD ITEMS, trimming is required before the items are used. In order to determine an accurate cost for such items, trim loss must be taken into account. The yield percentage is important in determining the quantity to order.

$$\frac{\text{Edible-portion quantity}}{\text{As-purchased quantity}} = \text{Yield percentage}$$

First, record the as-purchased quantity (APQ).

$$\text{APQ} = 5 \text{ lb lemons} = 80 \text{ oz}$$

Trim the item(s), saving unusable trim loss and edible-portion quantity (EPQ) in separate containers. Weigh each separately and record their weights.

$$\text{EPQ} = 36.5 \text{ oz lemon juice}$$

$$\text{Trim loss} = 43.5 \text{ oz}$$

Divide the EPQ by the APQ to determine the yield percentage.

$$\frac{36.5}{80} = 0.456 \times 100 = 45.6\%$$

$$\text{Yield percentage} = 45.6\%$$

This calculation can also be used to determine the yield percentage of meat, fish, poultry, and other types of ingredients that might be used trimmed.

CALCULATING AS-PURCHASED QUANTITY (APQ) FROM FORMULA MEASURE

BECAUSE MANY FORMULAS assume the ingredients listed are ready to cook, it is necessary to consider trim loss when purchasing items. In such cases, the edible-portion quantity must be converted to the as-purchased quantity that will yield the desired formula measure.

$$\frac{\text{EPQ}}{\text{Yield percentage}} = \text{APQ}$$

Example

A formula requires 20 lb peeled and diced potatoes. The yield percentage for potatoes is 78 percent (0.78). Therefore, 20 lb divided by 78 percent will equal the amount to purchase.

$$\frac{20 \text{ lb}}{0.78} = 25.65 \text{ lb APQ}$$

Generally, the as-purchased quantity obtained by this method is rounded up (in this example, to 26 lb), since the yield percentage is, by its nature, an estimate.

It should be kept in mind that not all foods, of course, have trim loss. Many pastry and bakeshop ingredients, such as sugar, flour, and spices, are processed or refined foods that have 100 percent yield. Other foods have a yield percentage that depends on how they are to be served. If, for example, the ingredient is to be served by the piece (1 poached pear), or if a formula calls for it by count (15 strawberries), there is no need to consider the yield percentage; the correct number of items is simply purchased to create the desired number of servings. However, if you are making fruit tartlets and the formula calls for 2 oz/57 g sliced pineapple and 1 oz/28 g sliced strawberries per serving, you must consider the yield percentage when ordering.

CALCULATING EDIBLE-PORTION QUANTITY (EPQ)

SOMETIMES IT IS NECESSARY to determine how many servings can be obtained from raw product, which is known as edible-portion quantity (EPQ). For example, if you have a case of fresh kiwis that weighs 10 lb and you want to know how many 4-oz servings the case will yield, you first need to determine the yield percentage, either by referring to a list of yield percentages or by performing a yield test. (See "Calculating Yield Percentage of Fresh Fruits and Vegetables," page 98.)

$$\text{APQ} \times \text{Yield percentage} = \text{EPQ}$$

Once you know the yield percentage, you can compute the weight of the kiwis after trimming.

$$10 \text{ lb} \times 0.85 = 8.5 \text{ lb}$$

The second step is to compute how many 4-oz servings the edible-portion quantity, 8.5 lb, will yield.

$$\frac{\text{EPQ}}{\text{Serving size}} = \text{Number of servings}$$

$$4 \text{ oz} = \tfrac{1}{4} \text{ lb} = 0.25\text{-lb}/113\text{-g serving size}$$

$$\frac{8.5 \text{ lb}}{0.25 \text{ lb}} = 34 \text{ or } \frac{3856 \text{ g}}{113 \text{ g}} = 34 \text{ servings}$$

NOTE: *If you do not get a whole number as your result from a similar calculation, you should round down the number of servings, since it would not be possible to serve a partial serving.*

CALCULATING EDIBLE-PORTION COST (EPC)

AS DISCUSSED EARLIER, formulas often assume that ingredients are ready to cook. When it comes to costing a formula, the edible-portion cost (EPC) per unit can be calculated from the as-purchased cost (APC) per unit.

$$\frac{\text{APC}}{\text{Yield percentage}} = \text{EPC}$$

EPC can then be used to calculate the total cost of an ingredient in a formula, as long as EPQ and EPC are expressed for the same unit of measure.

$$\text{EPQ} \times \text{EPC} = \text{Total cost}$$

BAKERS' PERCENTAGES

BAKERS' PERCENTAGES HAVE two basic functions. First, when a formula is expressed in bakers' percentages, it is easy to see and evaluate the relationships among the different ingredients. An understanding of the relationships between ingredients will help the baker or pastry chef to recognize a faulty formula, and to prepare basic products without the aid of written formulas, if necessary.

The second function of bakers' percentages is to make it easy to use a formula in the bakeshop or pastry kitchen. When a formula is expressed in bakers' percentages, it is easy to scale it up or down. The bread formulas in Chapters 7 and 8 have ingredients listed in U.S., metric, and bakers' percentages. Because the metric measures have been rounded for ease of use, the bakers' percentages will not match the metric values exactly; however, bakers' percentages can be thought of somewhat independently from the ingredient amounts listed. The percentages should be used to scale the recipe and create a formula with measurements that are appropriate for a specific operation.

A percentage is a part of a whole (100 percent). In bakers' percentages, the whole is always the flour; that is, the flour is always 100 percent. If there are two or more types of flour, their sum must equal 100 percent. The percentages for all other ingredients are derived from the flour. Because the whole is the flour, and not the sum total of all the ingredients, the sum of all the ingredients will always exceed 100 percent. Occasionally the percentage of another ingredient may exceed 100 percent, if it is required in a greater amount than the flour.

CALCULATING THE PERCENTAGE VALUE FOR AN INGREDIENT

To determine the percentage value for each ingredient in a formula, first, all of the ingredients must be in units measured by weight, not volume. Second, they must all be in the same unit of weight. For example, all ounces or all pounds—you cannot work with ingredients that are in both ounces and pounds. Simply divide the weight of the ingredient by the weight of the flour and then multiply the result by 100.

When making any calculations, numerical values must be expressed in the same unit of measure (e.g., pounds, ounces, grams, kilograms); if necessary, convert any values before beginning the calculation.

$$\frac{\text{Total weight of ingredient}}{\text{Total weight of flour}} = \text{Decimal value} \times 100$$
$$= \text{Percent value of ingredient.}$$

Example

A bread formula calls for 5 lb of flour and 3 lb of raisins. To calculate the percentage value for the diced potato, divide its weight by the weight of the flour (which is always 100 percent) and then multiply the result by 100.

$$\frac{\text{3 lb diced raisins}}{\text{5 lb flour}} = 0.60 \times 100 = 60$$

The resulting percentage value is 60 percent.

CALCULATING THE WEIGHT OF AN INGREDIENT WHEN THE WEIGHT OF FLOUR IS KNOWN

Divide the percentage value of the ingredient by 100 to get its decimal version, then multiply by the weight of the flour.

$$\text{Decimal value of ingredient} \times \text{Total weight of flour}$$
$$= \text{Total weight of ingredient}$$

Example

A bread formula lists the ingredient values only in percentages. You want to make a batch of dough using 5 lb flour. You need to calculate the weight for the raisins, which are valued at 60 percent, so you can prep them for making the dough the next day.

$$\frac{60}{100} = \text{0.6 decimal value}$$

$$0.6 \times \text{5 lb} = \text{3 lb raisins}$$

DESIRED DOUGH TEMPERATURE

THE DESIRED DOUGH temperature (DDT) is the ideal average temperature of dough while you are working with it. For lean doughs, this temperature is typically 75° to 80°F/24° to 27°C. Working with a lean dough at this temperature will help to control the rate of fermentation of the yeast. The ideal DDT for enriched doughs is slightly higher, typically 82–84°F, as it is important to control the yeast while fermenting in an enriched environment—typically enriched doughs are high in fats and sugars, both of which have a negative influence on the fermentation properties of the dough. (To learn more about DDT, see "Desired Dough Temperature and British Thermal Units" in Chapter 7, page 109.)

CALCULATING WATER TEMPERATURE FROM DDT

To calculate the DDT, you must first determine the following: the total temperature factor (TTF) and the sum of the other known temperatures that will influence the DDT. All of these numbers are used to calculate the temperature that the water should be when it is added to the ingredients so that after mixing the dough will be at or very near the DDT.

To make this calculation, first calculate the TTF. To find the TTF, multiply the DDT by the number of temperature factors to be considered. For a straight mix dough, there are typically three factors to be considered. For a sourdough, enriched dough, or a dough that uses a pre-ferment, there are four or sometimes five factors, depending on the number of elements that are going to be added to the dough. These elements include the temperatures of the flour, soaker, pre-ferment, butter, eggs, and any ingredient that is over 20 percent. Also to be factored in are the ambient temperature and the friction created by the mixer.

After you have found the TTF, subtract the sum of the known temperatures from it to give the ideal temperature for the water. The known temperatures are the temperature of the flour, preferments, eggs, any other ingredient over 20%, and the room. You also need to know the amount of friction the dough will undergo in the mixer. This is known as the *friction factor*.

To calculate the friction factor, you will need to take the temperature of the dough as soon as it becomes homogeneous in the mixer. Typically, this is after 2 minutes of first-speed mixing. This will determine the temperature of the dough before it undergoes mixing. Then, when the dough has reached the desired gluten development, the temperature of the dough is taken again. The increase in dough temperature from the start of mixing to the end will determine the amount of heat, or friction, that has been added to the dough during mixing. The number can be higher or lower depending on batch size, mixer speed, type of dough, and type of mixer.

Example

You are making a straight mix dough. The flour temperature is 65°F, the room temperature is 75°F, and the friction factor had been determined to be 24.

First, calculate the TTF.

$$\text{DDT} \times \text{TTF factor} = \text{TTF}$$

$$80 \times 3 = 240$$

TAYLOR
73.9°F
ON OFF
MODEL 9840
-58/302°F

The flour's temperature is one of the known elements in calculating DDT (desired dough temperature).

Then find the sum of all the known temperature factors.

Flour temperature + Room temperature + Mixer friction = Sum of known temperature factors

$$65 + 75 + 24 = 164$$

Finally, find the water temperature.

TTF − Sum of the known temperature factors = Water temperature

$$240 - 164 = 76°F$$

First subtract the actual water temperature from the desired water temperature to find the "degree difference."

$$60°F - 45°F = 15°F$$

Next, multiply the total weight of water by the "degree difference."

$$40 \text{ lb} \times 15°F = 600$$

Finally, divide the result by 144, the Btu factor.

$$\frac{600}{144} = 4.17 \text{ lb}$$

In warmer climates, it may be necessary to add ice to lower the temperature of the water enough to achieve the DDT.

For example, if the calculated water temperature for 40 lb of water is 45°F, but the temperature of the water is 60°F, ice can be used to lower the temperature of the water. To calculate how much ice to use, an "ice Btu factor" (the number of British thermal units it takes to melt 1 pound of ice) must be used in the following equation:

$$\frac{(\text{Total weight of water}) \times (\text{Water temperature} - \text{Desired water temperature})}{144} = \text{Weight of ice}$$

The result is the number of pounds of ice needed to achieve the desired water temperature and, ultimately, the DDT. Subtract the number of pounds of ice needed from the total weight of water needed to see how much water you need when adding ice to the formula.

$$40.00 \text{ lb} - 4.17 \text{ lb} = 35.83 \text{ lb}$$

In this formula, you will need to reduce the water to 35.83 lb to compensate for the 4.17 lb of ice. If you round the numbers so they can be measured easily, you will need 36 lb of water and 4 lb of ice.

PART TWO

YEAST-RAISED BREADS AND ROLLS

7

YEAST-RAISED BREADS AND ROLLS

When flour, water, yeast, and salt are worked together in the correct proportions for the appropriate amount of time and at the right temperature, proper gluten structure develops. The bread baker knows that the ingredients play a key role in the quality of the dough, as do the mixing and fermentation methods. The techniques in this chapter take the bread-baking process up through a finished dough.

DIRECT FERMENTATION

THE SIMPLEST AND FASTEST method for producing a lean dough is direct fermentation: Commercially produced yeast is combined with flour, water, and salt and mixed until the dough is supple and elastic, with well-developed gluten.

Flour, as a main component, provides the structure and crumb in breads through the action of the proteins and starches it contains. The amount of water or other liquids also has an impact on the finished loaf. Liquid works to promote the formation of an open crumb and increasing it will change the structure of the bread.

Some breads are meant to have a more delicate texture, with a softer crust and crumb. In these formulas, fats and sugars in the form of butter, oil, eggs, or syrups control or affect how well the gluten develops, how long and elastic the gluten strands become, how the yeast behaves, and how open or closed the crumb is after baking.

Yeast is directly related not only to the texture of the bread but also to its flavor. The direct fermentation method of bread making requires fewer steps and less advance preparation than indirect fermentation methods; however, the lack of a pre-ferment limits the quality of the finished product by limiting fermentation time. (See Chapter 8, page 154, for pre-ferments and indirect fermentation methods.) The processes occurring during fermentation further develop the structure and flavor of the dough—the more time allotted for fermentation, the better the development of the internal structure and the flavor of the dough. (For more about gluten development, starch gelatinization, and fermentation, see Chapter 4, pages 62, 63, and 65.)

The stages after mixing and bulk fermentation (i.e., shaping and baking, as well as handling, cooling, and storage) also have a great deal to do with the quality of yeast-raised breads, rolls, and cakes. Bread doughs can be given a variety of shapes, ranging from simple boules and round rolls to intricately braided loaves. Proofing the dough after it has been shaped gives it additional time to develop. Simple rustic shapes, such as baguettes and bâtards, are often used for lean doughs. Enriched doughs are soft enough to twist and braid.

THE STRAIGHT MIXING METHOD

The straight mixing method is most often used with formulas that rely on direct fermentation. For this mixing method, the ingredients are added in a different order depending on the type of yeast used. If instant dry yeast is used, the yeast should first be blended with the flour, then combined with the remaining ingredients. If active dry or compressed fresh yeast is used, the yeast should first be blended with the water and allowed to fully dissolve. Next the flour should be added, and all remaining ingredients should be placed on top of the flour.

After all the ingredients are in the mixing bowl, they should be blended together on low speed until just combined. Then turn the mixer to medium speed and blend the dough to full development.

STAGES OF MIXING BREAD DOUGH

IN BREAD MAKING, as with any baked item, the proper execution of mixing is crucial to the quality of the end product. When mixing bread dough, there are four identifiable stages that signal changes in structure and the stage of development of the dough.

STAGE 1: PICKUP PERIOD

During the pickup period, the ingredients are blended on low speed until just combined. The dough is a wet, sticky, rough mass at this point.

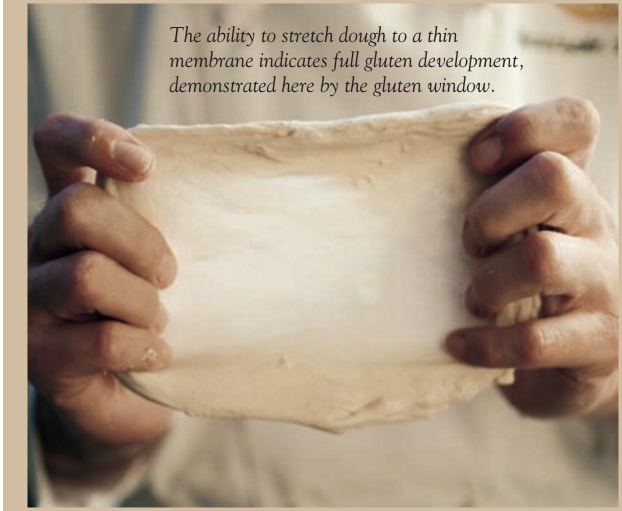
STAGE 2: CLEANUP PERIOD OR PRELIMINARY DEVELOPMENT

The cleanup period is the preliminary development of the dough. At this point the dough is being mixed at a moderate speed and will appear somewhat rough.

STAGE 3: INITIAL DEVELOPMENT PERIOD

During the initial development period, the elasticity of the gluten begins to develop and the dough starts

STAGES OF GLUTEN DEVELOPMENT



The ability to stretch dough to a thin membrane indicates full gluten development, demonstrated here by the gluten window.

ONE WAY TO KNOW when to check for gluten development is to understand the changes that occur during mixing. There are four separate mixing stages, no matter which mixing method you use. Each stage shows a clear difference in how far along the dough has developed in gluten structure. You will know when to end the mixing process because the formula you are using will tell you the level of development you need.

Dough that has reached short development will become a homogeneous mass but will fall apart when worked with your hands.

If you are making a lean dough that requires partial or improved gluten development, for example, you should continue mixing, then check the gluten window again periodically. Dough that has reached the improved gluten development stage holds together, but tears when you check for the gluten window.

Some doughs require intense development, meaning that you need to keep mixing the dough beyond the partial development stage until it is fully developed. If, as you check the gluten window, the dough doesn't tear and holds a thin membrane you can see through, then the gluten is properly developed. When the gluten window is transparent enough to see light through it, the dough has reached intense gluten development.

Checking the gluten window is important, and the stakes get higher when you are making an intensely developed bread. If you overmix the dough, the gluten will break down. The dough will go from being smooth and elastic to wet and sticky. Your bread will fail, meaning that it won't rise properly or bake well. On the other hand, if you don't mix the dough enough or mix it improperly, you will also wind up with low volume and poor internal structure. Poorly mixed dough may mean that the flour will not absorb the liquids properly and that the dough turns out irregular. It will have a poor gluten structure, lack elasticity, and will remain wet and sticky.

to pull away from the sides of the mixer bowl. At this point the mixer should be running at medium speed; a high speed would work the dough too roughly, breaking the structure of the gluten rather than promoting its development.

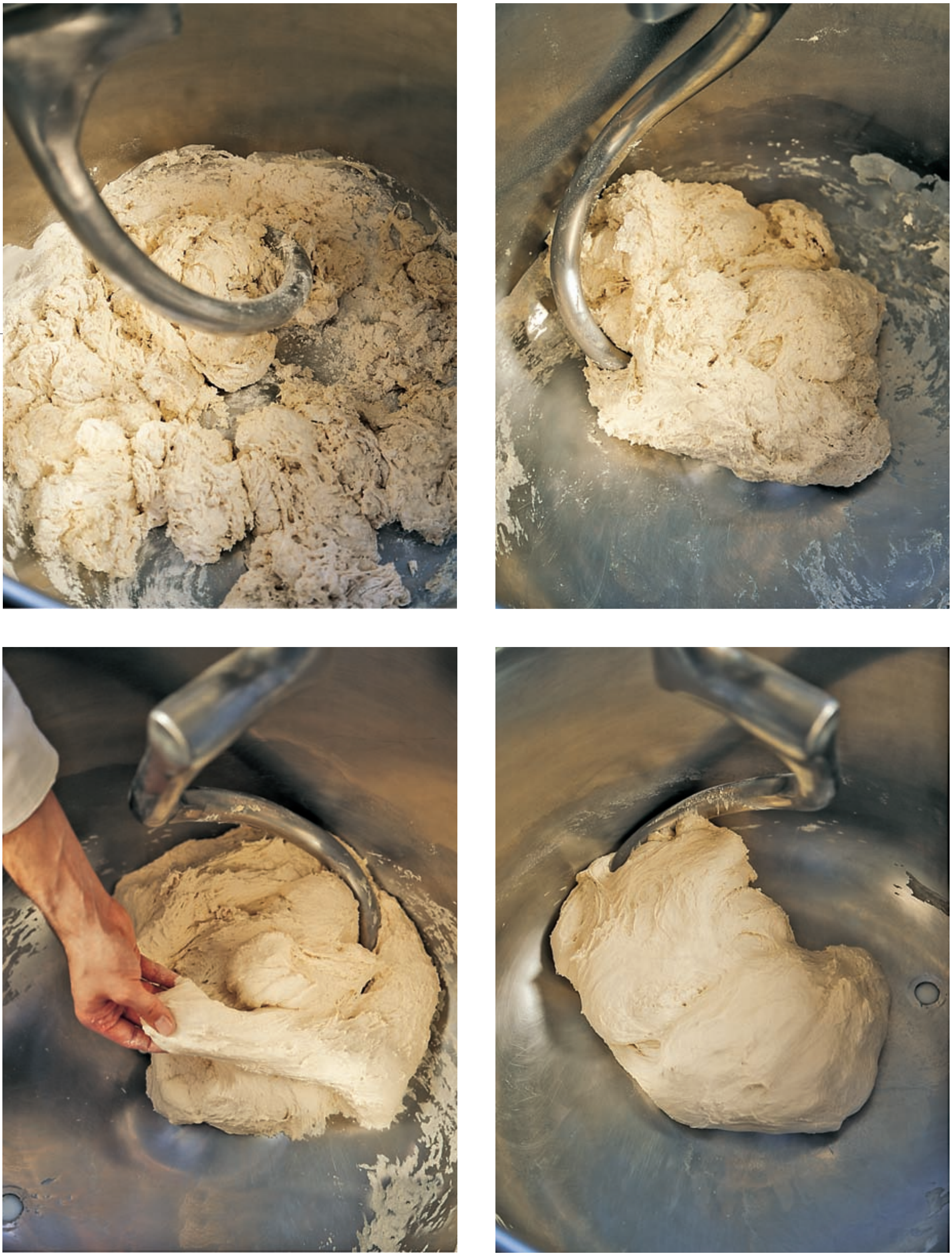
STAGE 4: FINAL DEVELOPMENT PERIOD

At this point the gluten is fully developed. The dough is smooth and elastic and leaves the sides of the bowl completely clean as the mixer is running. To test for full gluten development, remove a piece of dough from the mixer, dip it in flour, and stretch it from underneath. If the dough stretches to form a thin membrane, allowing light to filter through, then the gluten has been properly and sufficiently developed.

When dough is overmixed it will be very sticky and wet and will have little or no elasticity. This occurs because the gluten strands have been broken down; the resulting product will not rise or bake properly.

Advantages of proper mixing

- Optimum absorption
- Proper gluten development
- Slightly shorter fermentation time



TOP LEFT: *Stage 1: Pickup stage of dough development*

TOP RIGHT: *Stage 2: Cleanup stage*

BOTTOM LEFT: *Stage 3: Initial dough development*

BOTTOM RIGHT: *Stage 3: Final dough development*

SUBSTITUTING ONE YEAST FOR ANOTHER

EACH OF THE FORMULAS in this chapter was developed using instant dry yeast. In the past, fresh compressed yeast was the standard variety used by commercial bakers. However, today it is becoming more common for bakeshops to use dry varieties of yeast because they produce excellent results, are easier to store, and have a much longer shelf life. Generally, it is best to follow the manufacturer's instructions for use, as not all dry yeast products are alike.

The most common ratio of yeast to flour is approximately ½ oz/14 g fresh yeast to 1 lb 2 oz/510 g flour, although this ratio can vary according to the type of bread, the techniques used in production, the retarding, and the ingredients in the formula. Too little yeast will not raise dough sufficiently, while too much will give the bread an overly strong yeast flavor. The bakers' percentages included in the formulas in this chapter indicate the ratios for that dough and can be used as a guide for modification of these and other formulas.

Active dry yeast should be reactivated in twice its volume amount of water at 105°F/41°C for 3 to 5 minutes before blending with the remaining ingredients in the formula. Combine fresh yeast with some of the milk or water in the formula to blend evenly before adding the remaining ingredients. Instant dry yeast does not have to be activated, but it should not come in direct contact with ice-cold liquids or ice.

When converting a formula from fresh yeast to instant or active dry, most manufacturers suggest that the difference in weight be made up with additional water. This additional water will maintain the yield and hydration level of the dough.

Use the accompanying table to convert from one type of yeast to another.

TYPE OF YEAST	PERCENTAGE	EXAMPLE
Fresh yeast	100%	10 oz/284 g
Active dry yeast	40%	4 oz/113 g
Instant dry yeast	33%	3½ oz/94 g

DESIRED DOUGH TEMPERATURE AND BRITISH THERMAL UNITS

DOUGH TEMPERATURE IS IMPORTANT because it directly affects fermentation. Suggested temperatures for certain ingredients are based upon the desired dough temperature (DDT; the DDT is included in each formula). The colder the final temperature of a dough, the longer the fermentation time will be; the warmer the final dough temperature, the more quickly a dough will ferment. The fermentation time directly affects the quality and consistency of the finished product, and impacts production schedules as well, making the desired dough temperature a very important factor in bread baking.

The temperature of a directly fermented dough immediately after mixing is influenced by three factors: the temperature of the ingredients when added, the ambient (room) temperature, and the friction created by the mixer during mixing. (For a dough produced using the indirect fermentation method, all of these factors apply, along with the temperature of all pre-ferments added to the dough.) The sum of all the factors affecting the temperature of a dough is known as the *total temperature factor* (TTF).

The typical desired dough temperature for most yeast doughs is 75°F/24°C; however, an acceptable temperature for a finished dough may be from 65° to 85°F/18° to 29°C.

To produce a dough within this temperature range, the temperature of the water is critical, because it is the easiest factor to control with precision. It is common to use ice water when it is necessary to cool a dough. Cooling a dough by this method is useful, for example, when a long mixing time is predicted, when fermentation needs to be slowed, or when the ambient temperature is high and cannot be controlled. To calculate the quantity of ice, British thermal units or Btu's are used. If a pre-ferment is added that has been stored under refrigeration, it may be necessary to use slightly warm water. See "Desired Dough Temperature" in Chapter 6, page 101, for instructions on calculating the DDT, TTF, and ice Btu factor.

BULK FERMENTATION

THE FIRST FERMENTATION PERIOD, known as *bulk fermentation*, develops the flavor of the bread. Bulk fermentation is especially important when using the direct fermentation method. Regulating the temperature may extend the time or rate of fermentation during this period. Keeping the dough at cooler temperatures will result in a longer fermentation period and thus more flavor development.

The alcohol produced during fermentation tenderizes the gluten strands, making them more elastic so they expand, allowing the bread to rise properly. More-tender gluten strands produce a loaf with a tender and chewy crumb. Gluten is also further developed during this time through the process of folding.

The properly mixed dough is transferred to a lightly oiled bowl or tub (stiff or firm doughs can be placed on a lightly floured tabletop). Cover the dough with a moist cloth or plastic wrap to prevent a skin from forming on the surface and let it rest at the appropriate temperature until it has doubled in size. The times suggested in our formulas are based on fermentation at room temperature (75°F/24°C).

RETARDING DOUGH

Retarding dough means to purposely cool the dough, typically at temperatures of around 40°F/4°C, in order to slow the fermentation process. Retarding permits bakers to organize their work to meet production and employee schedules. It also allows the gluten to relax further, since the fermentation is prolonged. This results in dough that is easier to shape. A prolonged fermentation also gives dough time to develop a more pronounced sour flavor, so retarding dough can effectively enhance the quality of doughs made using direct fermentation.

The extended time at lower temperatures during bulk fermentation also means that you can properly ferment dough with a smaller amount of yeast. In fact, adding the full amount of yeast called for in a formula usually allowed to ferment at around 75°F/24°C would cause the dough to overferment if it were retarded, and would produce a flatter loaf with a coarse grain and crumb.

FOLDING OVER THE DOUGH

Dough is folded over to redistribute the available food supply for the yeast, equalize the temperature of the dough, expel the built-up fermentation gas (carbon dioxide) and ethyl alcohol, and further develop the gluten in the dough. This may be done during bulk fermentation, bench rest, or final fermentation.

In wet doughs, gluten is further developed during folding.

Doughs that have a typical hydration of around 67 percent or less should be treated gently during the folding process. It is more difficult for the gases resulting from the fermentation process to leaven the bread because of its density and the tightness of the gluten. For these reasons, it is important to fold carefully to preserve the already developed structure. A slack (wet) dough, such as that for ciabatta, requires more aggressive treatment when folding over. It is more difficult to develop the gluten in slack doughs; they require more gluten development to hold their shape and retain their inner structure.

FIBER-ENRICHED DOUGHS

WHOLE WHEAT FLOUR and flour made from grains such as rye, barley, buckwheat, rice, oats, millet, corn, and soy all contribute distinctive tastes and textures, as well as nutrition, to breads. They also make them heavier and denser. Typically, some measure of bread flour is included in formulas calling for whole wheat or nonwheat flours in order to develop a light, open crumb.

The bran in whole-grain flours interferes with the development of gluten. Bran cuts the strands of gluten, inhibiting their development and reducing their ability to trap the carbon dioxide produced by the yeast. The higher the percentage of whole wheat or nonwheat flour in a formula, the more pronounced its effect will be on the characteristics of the finished loaf.

One of the ways bread bakers aid the development of gluten in formulas containing these flours is known as *autolyse*. The flour and water are briefly combined first, just enough for a rough mixture to form. For more information, see "Autolyse" in Chapter 8, page 157.

SCALING AND PRESHAPING

ACCURATE SCALING GUARANTEES the correct weight of the dough pieces when dividing. However, scaling should be done quickly, so as not to overage the dough. Scaling time should not exceed 15 to 20 minutes. Proper scaling will also allow for uniformity in proofing and baking times. Dough is usually divided either entirely by hand using a scale, or first divided into large portions by hand and then divided into smaller pieces with a dough divider.

After scaling, the dough is given a gentle first shaping or "preshaping." Always lay the shaped pieces on the bench in the order they are shaped, in regular rows, so that you can start with the first piece when giving the dough the final shaping. The objective of preshaping is to get a smooth, tight skin that will help to trap the gases that develop during fermentation.

During scaling and preshaping, two things happen to the dough: First, because it is cut, the carbon dioxide trapped inside begins to escape, which causes the structure of the dough to begin to collapse; and second, the gluten strands are worked, which causes them to contract, making the dough tighter and tougher to work with. In wet doughs, gluten is further developed during folding.

Accurate scaling guarantees the correct weight of the dough pieces when dividing.

For large rounds (from 6 oz to 4½ lb/170 g to 2.04 kg)

1. Position the dough so one long edge is parallel to the edge of the work surface.

2. Fold the top edge of the dough down to the bottom edge. Using the heel of your hand, seal the two edges together. Rotate the dough 90 degrees.

3. Fold the top edge of the dough down to the bottom edge. Using the heel of your hand, seal the two edges together. Place the seam on the bottom.

4. Cup both hands around the dough and pull it toward you, giving it a one-quarter turn; continue until fully tightened.

For small rounds (from 2 to 6 oz/60 to 170 g)

1. Position the dough so one long edge is parallel to the edge of the work surface.

2. Fold the top edge of the dough down to the bottom edge. Using the heel of your hand, seal the two edges together. Rotate the dough 90 degrees.

3. Fold the top edge of the dough down to the bottom edge. Using the heel of your hand, seal the two edges together.

4. Place your hand over the ball of dough and curl your fingers so that the first knuckles of your fingers are touching the table. Your fingertips should almost be touching the palm of your hand, and your thumb should be out to the side and touching the table; the heel of your hand should also be touching the table. The dough should be sitting near the top of your palm, near your thumb, forefinger, and middle finger.

5. Using your palm, push the dough away from you in an arc to the right. Using your fingertips, pull the dough toward you in an arc to the left. Repeat this circular motion, applying gentle pressure while rounding the dough, to create a tight, smooth ball.

For large oblongs (from 12 oz to 1¾ lb/340 to 790 g)

1. Position the dough so one long edge is parallel to the edge of the work surface.

2. Stretch the dough into a rectangle 10 in/25 cm long. Fold the left and right edges of the rectangle into the center of the dough, pressing the dough lightly with your fingertips.

3. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips. Fold the top of the dough down to the bottom edge. Seal the two edges together, using the heel of your hand.

4. Roll the dough into an even cylinder 6 in/15 cm long.

For small oblongs (from 3 to 6 oz/90 to 170 g)

1. Turn the dough so one long edge is parallel to the edge of the work surface.

2. Stretch the dough into a rectangle 3 in/8 cm long. Fold the left and right edges of the rectangle into the center of the dough, pressing the dough lightly with your fingertips.

3. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips. Fold the top of the dough down to the bottom edge. Seal the two edges together, using the heel of your hand.

4. Roll the dough into an even cylinder 3 in/8 cm long.

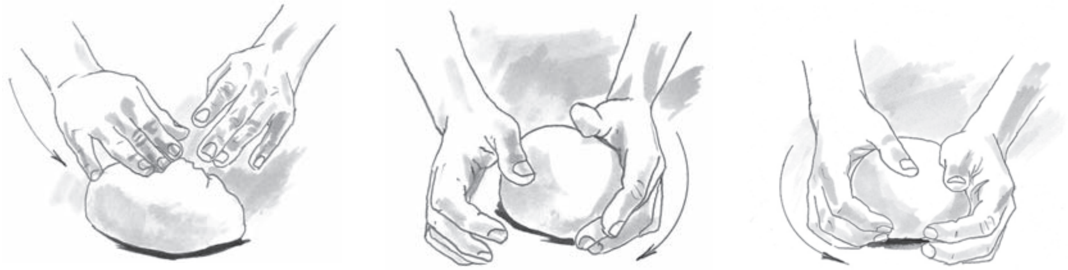
RESTING OR INTERMEDIATE FERMENTATION

AFTER BULK FERMENTATION, dividing, and preshaping, the dough is allowed to ferment again. This period has various names: *bench rest*, *table rest*, and *secondary* or *intermediate fermentation*. This stage allows the dough to relax and recover from the dividing and preshaping process in preparation for final shaping. It allows the gluten to relax, so the dough will become somewhat slack and easier to manipulate into its final shape, and it allows the yeast cells to recover, rebuilding carbon dioxide and therefore the internal structure of the dough. Normally, this stage lasts from 10 to 20 minutes. It is important to keep the loaves covered with plastic wrap or a moist linen cloth to prevent the formation of a skin or dry crust.

FINAL SHAPING

AFTER THE SECONDARY FERMENTATION, the dough is given its final shape. Following are two of the most basic and common shaping techniques: a boule and a bâtard. Throughout this and the advanced breads and rolls chapters, various formulas will utilize and illustrate common shapes used for lean and enriched yeast doughs. Brush the dough with egg wash or water, if using, after it is shaped so that the dough can be evenly coated without affecting it after its final rise (see also "Washes," page 115). Any simple garnishes such as seeds or coarse salt can be applied once the surface is brushed with egg wash or water; the wash will hold them in place.

SHAPING A BOULE

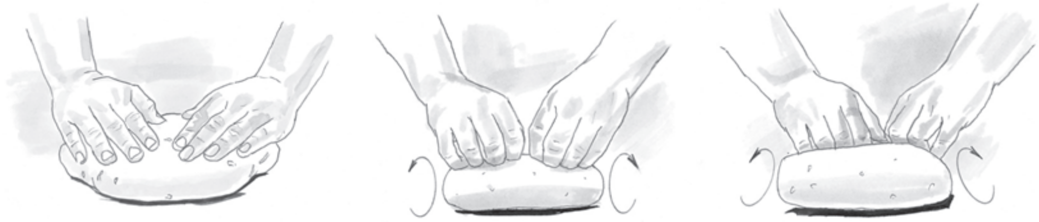


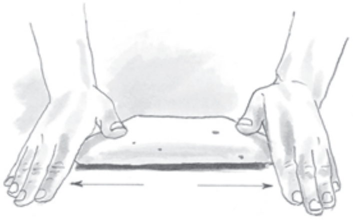
LEFT: *Preshape the dough into a round piece and allow to rest uncovered until relaxed, 15 to 20 minutes.*

CENTER: *Cup both hands around the dough. Using your thumbs, push the dough away from you in an arc to the right.*

RIGHT: *Using the edges of your palms as a guide, pull the dough toward you in an arc to the left.*

SHAPING A BÂTARD





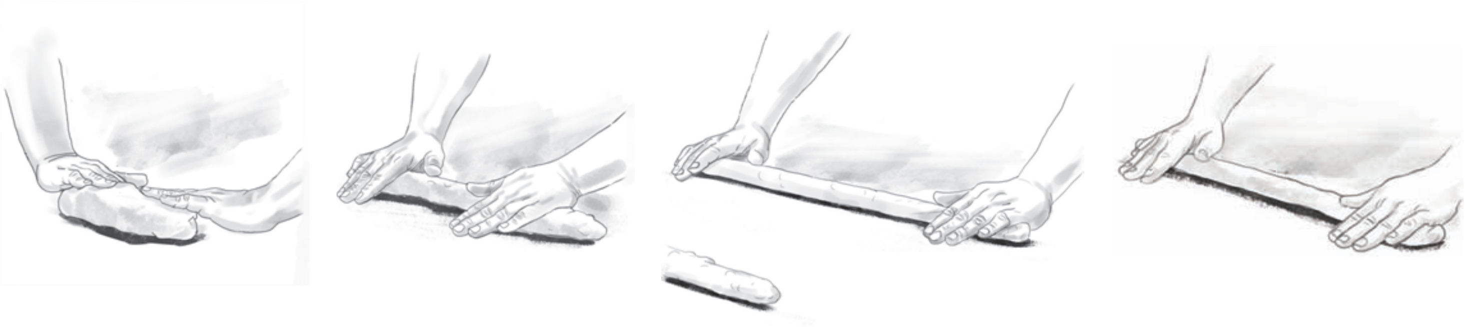
FROM LEFT TO RIGHT: *Gently flatten the preshaped oblong.*

Fold the top of the dough to the center.

Press the seam with your fingertips to tighten the dough.

Roll the ends of the cylinder with the palms of your hands to taper.

SHAPING A BAGUETTE



FROM LEFT TO RIGHT: *Fold the top edge of the dough, pressing lightly with your fingertips to tighten the dough.*

Use the heel of your hand to seal the two edges.

Taper the ends using increased pressure while rolling.

Roll out the dough to even out the center once the ends have been tapered.

FINAL FERMENTATION (PROOFING)

AFTER SHAPING, THE DOUGH undergoes one more fermentation. Some doughs, such as the lean dough used to prepare boules, can simply be placed on a worktable or a board that has been dusted with flour or cornmeal. Other doughs or shapes may be placed on a linen cloth (couche), on sheet pans, in loaf pans, or in baskets (bannetons), wooden molds, or other molds. During this final rise, it is again important to ensure that a skin does not form on the surface of the dough. If you are not using a proof box for this final proof, the dough should be covered. Using the temperature and humidity controls in a proof box will prevent a skin from forming without the dough being covered.

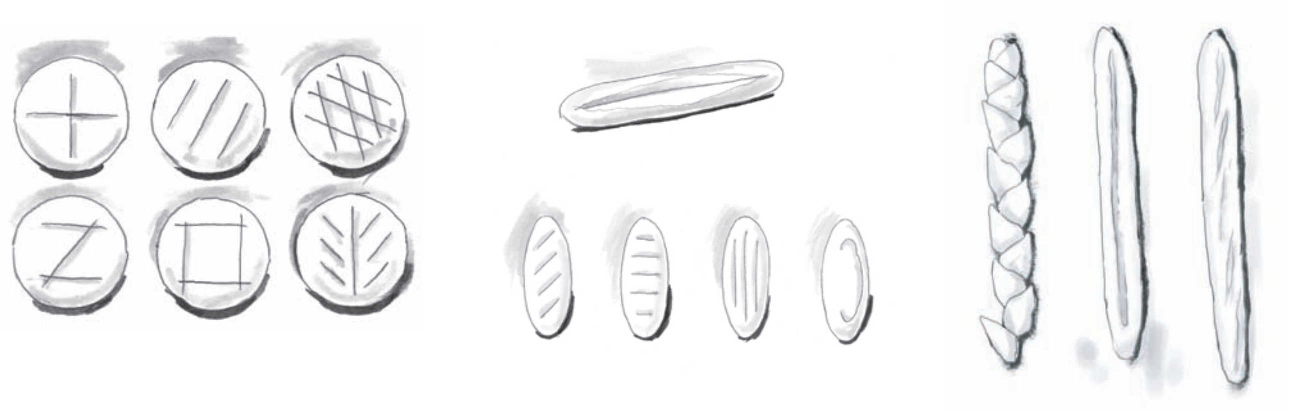
A temperature- and humidity-controlled proof box can provide the necessary relative humidity of approximately 80 percent, so the surface of the dough does not dry out. (Conversely, if the humidity is too high, the loaves will become too sticky for proper crust formation.)

The ambient temperature for the final proof should be between 80° and 90°F/27° and 32°C for maximum yeast activity; the ideal temperature is 85°F/29°C. If the temperature during this final proof is too high, insufficient yeast activity will result in poor grain and loss of flavor, and the shelf life of the bread will be shorter. A temperature that is too low will result in a longer proofing time.

Small items such as rolls must be allowed to fully ferment during final proofing because they bake quickly, leaving less time for fermentation in the oven. Large items such as loaves should be proofed to a slightly less developed state than small items, as they require longer baking times and will continue to ferment (or proof) for a longer time in the oven.

FINISHING TECHNIQUES

SCORING AND WASHES, when used, enhance the overall beauty of the finished loaf or roll. Scoring allows for full expansion as well as controlling the final expansion, so the loaf does not become misshapen. Washes control the crust development during baking.



TOP LEFT: *Scoring patterns for round loaves: Patterns are evenly distributed over the entire surface.*

TOP CENTER: *Scoring patterns for oblong loaves: Notice they are at the highest points on the loaf.*

RIGHT: *Scoring patterns for baguettes: The scores should be situated in the center and not extend past the middle third of the loaf. Baguettes can also be cut into epi shape (see page 164 for more information).*

SCORING

Many breads are scored with a lame, razor, sharp knife, or scissors before they are loaded into the oven. Scoring helps develop a good-quality loaf with an even appearance and crumb. It allows the bread to release steam and continue to expand until the structure is set. By scoring the dough, the baker can control the final shape of the bread by determining where the product expands during baking. Baking an unscored bread results in an unevenly shaped loaf. The structure forms too early to permit full expansion and, consequently, the full development of the internal structure of the loaf.

Some breads, such as baguettes, are scored with traditional patterns that are used as a way to label the breads, making it easy for both clients and staff to identify them.

WASHES

Water is often brushed or sprayed on shaped breads before baking to ensure a crisp crust and to promote the gelatinization of the starch on the surface of the bread. Beaten eggs as a wash create a glossy, shiny crust and seal the moisture in the bread. Typically, whole eggs are used. A wash of only yolks would burn too quickly, especially at the higher temperatures required for baking most breads.

Milk or cream is often used for breads baked at lower temperatures. Because the lactose in milk or cream caramelizes at 170°F/77°C, it gives breads a darker crust than water. In addition, the bread will bake a little faster because the milk fat acts to conduct heat.

BAKING

AFTER IT IS PLACED IN the oven, the dough continues to rise for a brief period. This is known as *oven spring*, and it continues during the first few minutes of baking, until the dough reaches an internal temperature of 140°F/60°C, at which point the yeast dies.

Most breads, except those that have been brushed with egg wash, are steamed at the outset of the baking process. The steam gives a final boost of volume, allows for maximum expansion of the dough, and adds sheen and color to the crust. Steam is typically used in baking lean doughs. It helps develop texture and keeps the surface of the dough soft so that it can expand during the beginning stages of baking. It also acts to gelatinize the starches on the surface of the dough to facilitate structure formation.

After the steam evaporates or is vented from the oven, the browning of the crust takes place. The moisture from the steam still remaining on the dough conducts heat rapidly and the surface of the bread sets quickly, thus ending the expansion of the loaf and beginning the development of a crisp, brown crust.

French regional shapes. The ring-shaped loaves are coronne Lyonnaise; the other loaf is pain tricorne.

The length of time bread bakes is determined by a number of factors including the type of bread, weight of the loaf, type of oven (hearth, rotating, convection, etc.), oven temperature, and oven humidity.

Lean doughs should be baked in a hot oven (440° to 500°F/227° to 260°C) with steam; enriched doughs should be baked at a lower temperature (350° to 400°F/177° to 204°C). Beyond this, other factors that may affect the specific baking temperature are the type of oven, size and shape of the product, and desired crust and color development.

During baking, carbon dioxide and steam are released in the bread and expand to further leaven the bread. The gluten strands (and eggs, if used) stretch and coagulate to develop the internal structure of the bread. The starches gelatinize to form the crust, and flavor and color develop as sugar caramelizes.

Once the loaves are baked, it is important that they be cooled properly in order to preserve the crust and structure of the bread, as well as to allow for final development of flavor. All breads, but especially those made with lean doughs, should be cooled on wire racks to maintain air circulation around the entire loaf. This will prevent moisture from collecting on the bread as it cools.

ENRICHED DOUGHS

THE TERM *ENRICHING* indicates that ingredients containing fat or sugar are added to the dough. Many different ingredients, such as milk, oil, or butter, may be used to enrich a dough. Often, enriched breads also contain a measure of sugar that has been introduced either through the addition of ingredients that contain some type of sugar (e.g., lactose, through the use of milk), or simply by the addition of a granulated or syrup form of sugar.

The addition of fat or sugar dramatically affects the finished product. The additional fat acts to shorten the gluten strands and increase the elasticity of the gluten in a dough. This will have a tenderizing effect on the finished product, yielding a more tender crumb and the development of a soft crust. Additional sugars promote quick fermentation and browning of the crust during baking.

Sunflower Seed Rolls (page 132), Multigrain Bread (page 160), Challah (page 140), Whole Wheat Lean Bread (page 121) rolled in oats, Lean Dough (page 118) shaped into French rolls

LEAN DOUGH

MAKES 8 LB 8½ OZ/3.85 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	100%	5 lb	2.27 kg
Instant dry yeast	0.83%	¾ oz	20 g
Water	66.9%	3 lb 6 oz	1.53 kg
Salt	2.2%	1¾ oz	50 g

1. Combine the flour and yeast. Add the water and salt to the mixer, then add the flour and yeast. Mix on low speed with the dough hook attachment for 2 minutes and mix on medium speed for 3 minutes. The dough should be smooth and elastic. Mix to the improved stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 30 minutes. Fold gently. Ferment for another 30 minutes and fold again. Ferment for another 15 minutes.

3. Divide the dough into pieces 1 lb/450 g each, or the desired size. Preshape the dough into large rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

4. To shape as a boule: Cup both hands around the dough. Using your thumbs, push the dough away from you in an arc to the right, keeping a small piece of dough between the table and the edges of your palms. Using the edges of your palms as a guide, pull the dough toward you in an arc to the left. There should still be a small piece of dough that is squeezed between the table and the edges of your palms. Repeat this circular motion two or three more times, applying gentle pressure while rounding the dough, to create a tight, smooth outer skin. Place the boule seam side up in a lightly floured round basket or seam side down on a board dusted with cornmeal.

5. Proof until the dough springs back slowly to the touch, 1 to 1½ hours. Flip the dough seam side down onto a peel. Score the boule with an arc.

6. Presteam a 460°F/238°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 25 to 30 minutes. Vent during the final 10 minutes. Cool completely on racks.

BAGELS

MAKES 8 LB ½ OZ/3.64 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
High-gluten flour	100%	5 lb	2.27 kg
Instant dry yeast	0.4%	¼ oz	7 g
Water	57.5%	2 lb 14 oz	1.4 kg
Salt	2.1%	1¾ oz	50 g
Diastatic malt syrup	0.94%	¾ oz	20 g
Malt syrup (per 5 gal/19.2L water), for boiling		5 oz	140 g
Garnishes such as sesame seeds, poppy seeds, salt		As needed	As needed

1. Combine the flour and yeast. Add the water, salt, and diastatic malt syrup to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 5 minutes. The dough should be stiff, dry, and elastic and have strong gluten development.

2. Divide the dough into 5-oz/140-g pieces. Preshape each piece of dough into a small 5-in/13-cm oblong (for preshaping instructions, see page 120). Let the dough rest, covered, for 10 minutes.

3. Start with the first piece of dough that you shaped and work sequentially. Roll each piece of dough under your palms into a cylinder 10 in/25 cm long; begin rolling with your palms near the center of the dough and use even pressure from the center to the ends. Taper the ends very slightly.

4. Shape each cylinder into a ring, overlapping the ends by 1 in/3 cm; make sure the seams are aligned with the rest of the ring. Place two or three of your fingers in the center of the bagel and roll the overlapped ends gently against the worktable until they are the same diameter as the rest of the bagel. (As you work, it may become necessary to moisten your hands or the table to prevent sticking.) After rolling, the bagels should be 4 in/10 cm wide with a hole 2 in/5 cm in diameter.

5. Place the bagels seam side down on cornmeal-dusted sheet pans. Cover the bagels and proof under refrigeration (retard) for 8 hours or overnight.

6. Let the proofed bagels rest at room temperature, covered, for 15 minutes. Meanwhile, bring 5 gal/19.2 L of water to a boil and add the malt syrup.

7. Add a few bagels at a time to the water, stir once or twice to keep them from sticking together, and simmer until they rise to the top, about 20 seconds. Shock the bagels in ice water for a chewier bagel (see Chef's Note.) Place the bagels on a screen to drain excess water. Add garnish as desired while still damp. Air-dry slightly.

8. Transfer the bagels to a peel and load them into a 500°F/260°C deck oven. Bake until golden brown but still soft and slightly springy to the touch, 10 to 15 minutes. Cool completely on racks.

CHEF'S NOTE

Unshocked bagels will continue to grow to yield a lighter, fluffier item that is not a traditional bagel.

VARIATION

For cinnamon raisin bagels, add 1 lb 10 ½ oz/710 g raisins and ¼ oz/7 g cinnamon at the end of mixing in step 1. Mix on low speed until the ingredients are combined, about 1 minute.

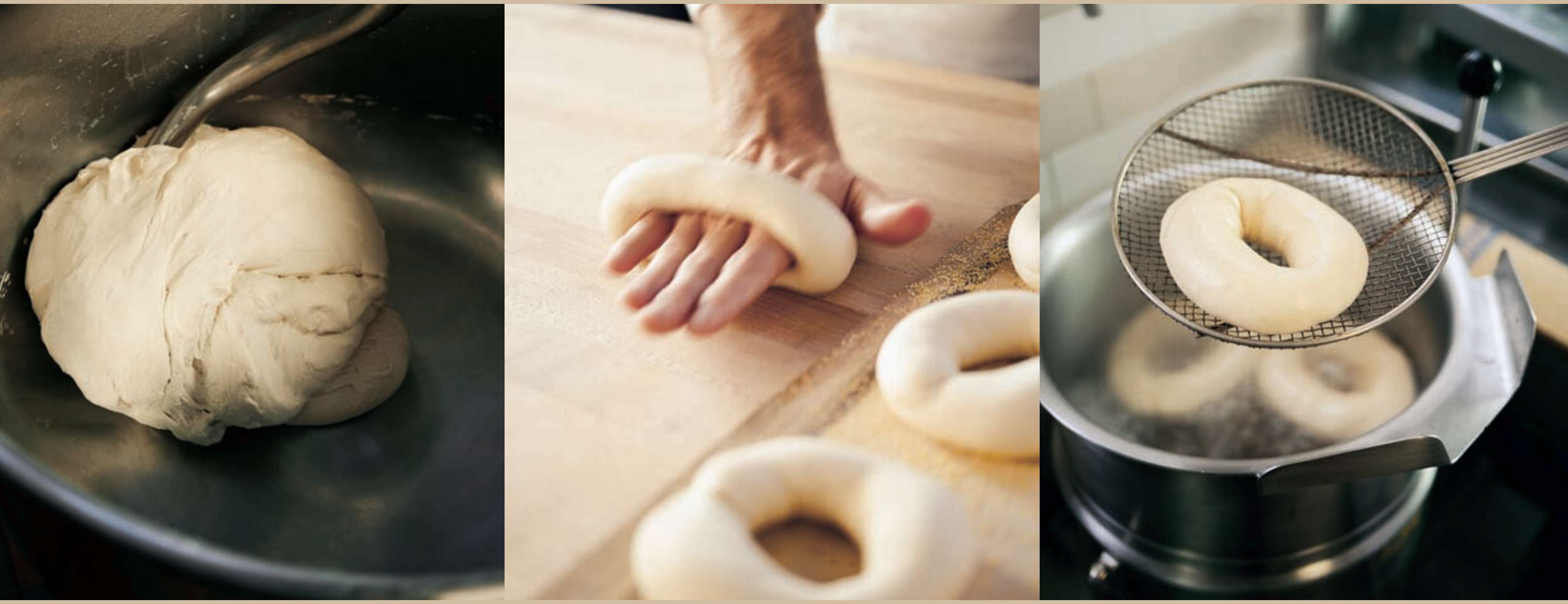
BAGELS

TO MAKE BAGELS SUCCESSFULLY, a few guidelines must be kept in mind. It is important to use high-gluten flour and malt syrup in the dough. The high-gluten flour helps to develop the characteristic chewiness of a bagel. And the malt syrup contains enzymes that help break down the carbohydrates in the flour into sugars, further developing the texture and flavor of the bagels.

Bagel dough is very tight and dry. The dough should be mixed until it is very smooth. This extensive mixing will make the dough slightly tacky even though it contains little water.

Unlike most other breads, bagels should be shaped immediately after the dough is mixed. Then the bagels should be retarded overnight to develop flavor and relax the gluten.

Following retarding, they are poached in a mixture of water and malt. The poaching activates the yeast, and the water that remains on the bagels results in the sheen on the surface of the bagels; but most important, since the starches are gelatinized before going into the oven, they seal in moisture, creating a chewy bagel. The bagels must first dry slightly before they are put directly on the deck, or they will stick.



WHOLE WHEAT LEAN BREAD

MAKES 8 LB 10½ OZ/3.93 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	60 %	3 lb	1.36 kg
Whole wheat flour	40 %	2 lb	910 g
Instant dry yeast	0.75%	¾ oz	20 g
Water	70%	3 lb 8 oz	1.59 kg
Salt	2.2%	1¾ oz	50 g

1. Combine the flours and yeast. Add the water and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 3 minutes and on medium speed for 3 minutes. The dough should be soft but with sufficient gluten development. Mix to the improved stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 30 minutes. Fold gently and ferment for another 30 minutes. Fold again. Ferment for another 15 minutes.

3. Divide the dough into pieces 1 lb/450 g each. Preshape the dough into large oblongs (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

4. To shape as a bâtard: Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten.

5. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough under your palms into a cylinder 8 in/20 cm long, moving your hands outward from the center of the cylinder toward the ends and slightly increasing the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal.

6. Proof, covered, in a couche, until the dough springs back slowly to the touch but does not collapse, 45 minutes.

7. Score the bâtard straight down the center.

8. Presteam a 460°F/238°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 25 to 30 minutes. Vent during the final 10 minutes. Cool completely on racks.

DURUM ROSEMARY BREAD

MAKES 15 LB 9 OZ/7.06 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Durum flour	74.1%	6 lb 10 oz	3.01 kg
Bread flour	25.9 %	2 lb 5 oz	1.05 kg
Instant dry yeast	0.45%	¾ oz	21 g
Water	70%	6 lb 4 oz	2.84 kg
Salt	2.1%	3 oz	90 g
Rosemary, coarsely chopped	0.7%	1 oz	30 g

1. Combine the flours and yeast. Add the water, salt, and rosemary to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 3 minutes and on medium speed for 3 minutes. The dough should be slightly stiff with sufficient gluten development. Mix to the improved stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 40 minutes. Fold gently. Ferment for another 40 minutes.

3. Divide the dough into pieces 1 lb/450 g each. Preshape the dough into large rounds (for pre-shaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

4. To shape as a boule: Cup both hands around the dough. Using your thumbs, push the dough away from you in an arc to the right, keeping a small piece of dough between the table and the edges of your palms. Using the edges of your palms as a guide, pull the dough toward you in an arc to the left. There should still be a small piece of dough that is squeezed between the table and the edges of your palms. Repeat this circular motion two or three more times, applying gentle pressure while rounding the dough, to create a tight, smooth outer skin. Place the boule seam side up in a round basket or seam side down on a board dusted with cornmeal.

5. Proof until the dough springs back slowly to the touch, 1 to 1½ hours. Flip the dough seam side down onto a peel. Score the boule with an arc.

6. Presteam a 460°F/238°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 25 to 30 minutes. Vent during the final 10 minutes of baking. Cool completely on racks.

SOFT ROLL DOUGH

MAKES 9 LB 4 OZ/4.2 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	100%	5 lb	2.27 kg
Instant dry yeast	1.66%	1½ oz	40 g
Milk, room temp	50%	2 lb 8 oz	1.13 kg
Butter, soft	10%	8 oz	230 g
Eggs (55°F/13°C)	10%	8 oz	230 g
Sugar	10%	8 oz	230 g
Salt	2.5%	2 oz	60 g
Egg Wash (page 1064)		As needed	As needed

1. Combine the flour and yeast. Add the milk, butter, eggs, sugar, and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 3 minutes. The dough should be firm but elastic. Mix to the improved stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 1 hour. Fold gently.

3. Divide the dough into pieces 4 lb/1.81 kg each. Preshape the dough into large rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes.

4. Line sheet pans with parchment paper. To shape as knot rolls: Divide each piece of dough into 36 pieces (1¾ oz/50 g each) by hand or using a dough divider. Starting with the first piece of dough that you shaped, and working sequentially, flatten a piece of dough slightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten the dough. Fold the dough in half again and use the heel of your hand to seal the two edges together, keeping the seam straight. Roll the dough under your palms into an even rope 6 in/15 cm long.

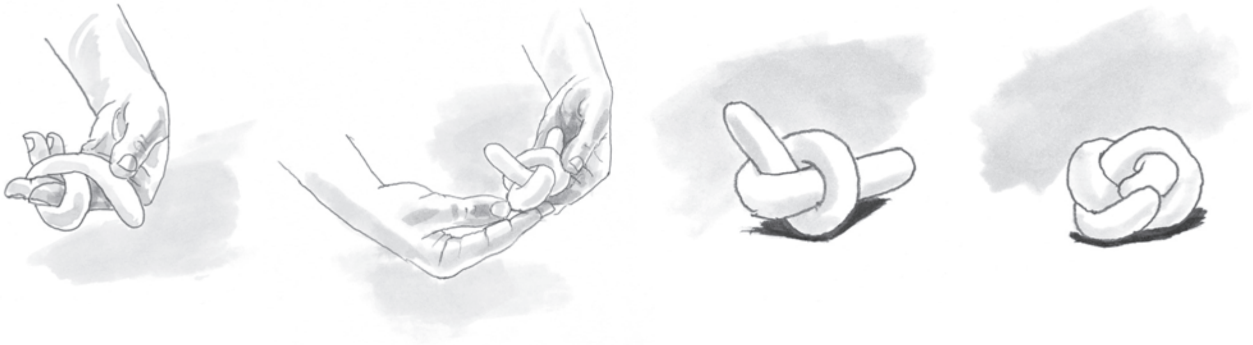
5. Lay 2 in/5 cm of one end of the rope over your forefinger and middle finger. There should be ½ in/1 cm of dough hanging over your fingers; bring it under your fingers and cross it over the dough sitting on your fingers.

6. Bring the longer piece of dough underneath the dough sitting on your fingers. This will be the base of the knot; there should be ½ in/1 cm of dough to the left of the knot and 2 in/5 cm of dough to the right of it. There should be one side of the roll where the knot is formed and one side of the roll that is smooth. Bring the longer piece of dough around the smooth side of the dough, and pinch the ends of the dough together. Turn the roll so that the pinched ends are on the bottom.

7. Arrange the rolls in rows on the lined sheet pans, spacing them 4 in/10 cm apart. Brush the rolls with egg wash. Proof, covered, until the dough springs back slowly to the touch but does not collapse, 30 to 50 minutes.

8. Lightly brush the rolls again with egg wash. Bake in a 375°F/191°C convection oven until the rolls are golden brown and shiny, about 15 minutes. Cool completely on the pans.

KNOT ROLLS



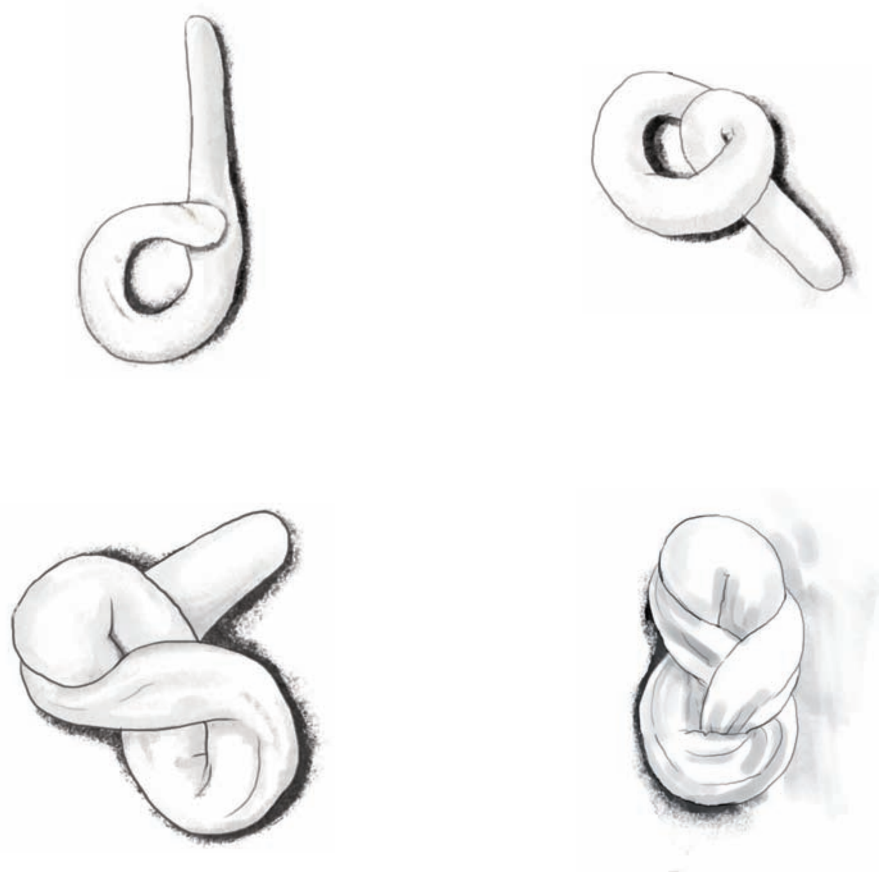
LEFT: *Cross the dough over your hand.*

CENTER LEFT: *Bring the longer piece of dough underneath the piece of dough sitting on your fingers.*

CENTER RIGHT: *Continue the knot.*

RIGHT: *Pinch the two ends together.*

KNOT ROLL 2



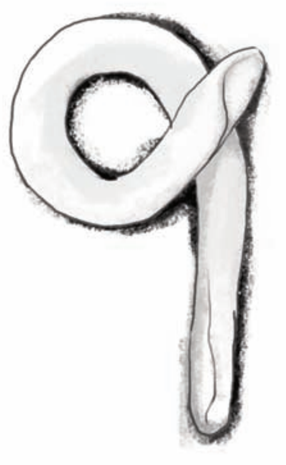
TOP LEFT: *Press the right end of the dough into the left center portion of the dough.*

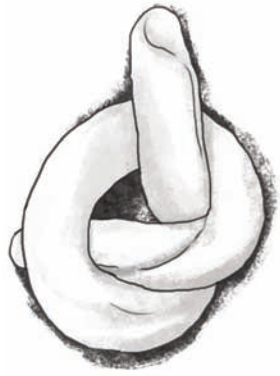
TOP RIGHT: *Loop the left end of the dough around the pressed end of the dough and through the hole.*

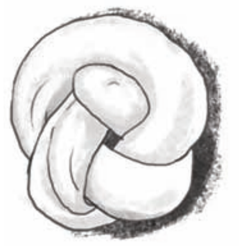
BOTTOM LEFT: *Pull the bottom left side of the loop across the right side of the loop to make a figure eight and press lightly.*

BOTTOM RIGHT: *Pull the tail of the dough over the center of the dough and through the right loop.*

KNOT ROLL 3





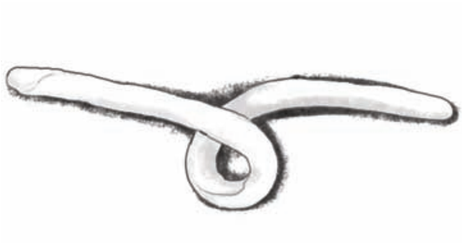


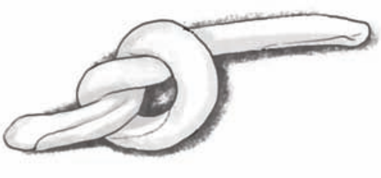
TOP LEFT: *Cross the left end of the dough over the center portion of the dough, leaving a small tail of dough protruding.*

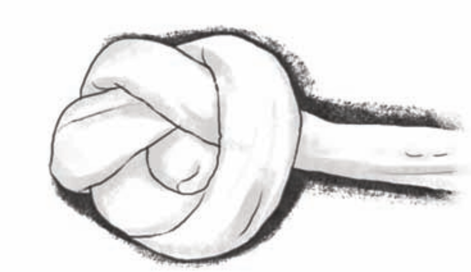
TOP RIGHT: *Cross the right end of the dough over the loop and pull the end of the dough through the hole.*

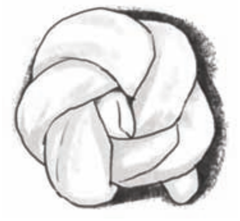
BOTTOM: *Pull the protruding tail of dough around the loop and through the center.*

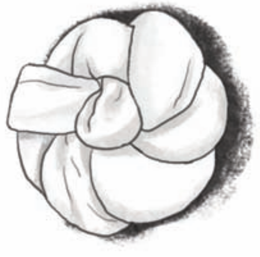
KNOT ROLL 4











TOP: *Cross the right end of the dough over the left to create a small loop.*

Loop the left end of the dough under and then through the hole, leaving a small tail of protruding dough.

Loop the protruding end around and through the hole again so that the end of the dough is sitting in the center of the loop.

BOTTOM: *Loop the right strand of dough around and through the loop to the right of the dough in the center of the loop.*

Loop the dough around again and push the end through the center of the loop.

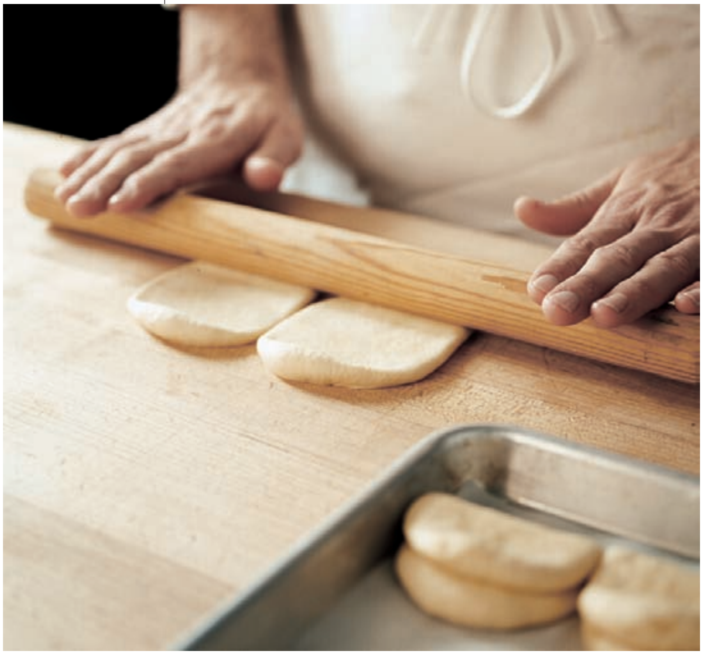
PARKER HOUSE ROLLS

MAKES 3 DOZEN ROLLS (1¾ OZ/50 G EACH). DDT: 75°F/24°C

INGREDIENT	U.S.	METRIC
Soft Roll Dough (page 123)	4 lb	1.81 kg
Clarified butter, melted, for brushing	As needed	As needed

1. Follow the method for Soft Roll Dough (page 123) through step 2. Preshape the dough into a round (for preshaping instructions, see page 111). Line sheet pans with parchment paper. Let the dough rest, covered, until relaxed, 15 to 20 minutes.

Shaping Parker House Rolls



2. Divide the dough into 36 pieces (1¾ oz/50 g each) by hand or using a dough divider.

3. Re-round each piece and let them rest, covered, for 10 minutes.

4. Roll each piece of dough into an oval 5 in/13 cm long and 2½ in/6 cm wide; the dough will be about ⅛ in/0.3 cm thick. Brush any excess flour off the dough as you work. Fold each oval in half so that it is now 2½ in/6 cm wide, 2½ in/6cm long, and ¼ in/0.6 cm thick. Turn the dough so that the folded edge is facing toward you. Roll the bottom 2 in/5 cm of the dough until it is ⅛ in/0.3 cm thick. The remaining ½ in/1 cm of dough at the top should still be ¼ in/0.6 cm thick.

5. Arrange the rolls in rows on the lined sheet pans, spacing them 4 in/10 cm apart. Brush with clarified butter. Proof, covered, until the dough springs back slowly to the touch, 30 to 40 minutes.

6. Bake in a 375°F/191°C convection oven until the rolls are golden brown and shiny, about 20minutes. Brush the rolls with clarified butter as soon as they are removed from the oven. Cool completely on the pans.

PAIN DE MIE

MAKES 37 LB 13 OZ/17.15 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	100%	20 lb 15 oz	9.5 kg
Instant dry yeast	0.9%	3 oz	90 g
Salt	2.3%	7¾ oz	220 g
Sugar	4.1%	13¾ oz	390 g
Olive oil	8.8%	1 lb 13 oz	820 g
Water	64.9%	13 lb 10 oz	6.18 kg

1. Combine the flour and yeast. Add the salt, sugar, oil, and water to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 4 minutes. The dough should be a little sticky, but with fairly good gluten development. Mix to the intense stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 45 minutes.

3. Grease fifteen 3-lb/1.36-kg Pullman loaf pans and lids generously. Divide the dough into pieces 2 lb 8 oz/1.13 kg each.

4. Preshape the dough into oblongs 10 in/25 cm long (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

5. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten.

6. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough under your palms into a cylinder 8 in/20 cm long, moving your hands outward from the center of the cylinder toward the ends and slightly increasing the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal. Place in oiled Pullman pans.

7. Proof, uncovered, until the pans are three-quarters full and the dough springs back slowly to the touch but does not collapse, 45 to 60 minutes.

8. Place the oiled lids on the pans and bake in a 375°F/191°C oven for 40 minutes, or to an internal temperature of 205°F/96°C. Remove from the pans immediately and cool on racks.

GRISSINI

MAKES 8 LB 8 OZ/3.86 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
High-gluten flour	100%	5 lb	2.27 kg
Instant dry yeast	1.66%	1¼ oz	40 g
Milk, room temp	45%	2 lb 4 oz	1.02 kg
Butter, soft	15%	12 oz	340 g
Olive oil	3.75%	3 oz	90 g
Salt	2.5%	2 oz	60 g
Malt syrup	1.9%	1½ oz	40 g
Olive oil, for brushing		As needed	As needed
Optional garnishes: Coarse salt, poppy seeds, and sesame seeds		As needed	As needed

1. Combine the flour and yeast. Add the milk, butter, olive oil, salt, and malt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 3 minutes. The dough should be very stiff. Mix to the improved stage of gluten development. Let the dough rest for 15 minutes.

2. Bulk ferment the dough until nearly doubled, about 30 minutes.

3. Line sheet pans with parchment paper.

Feeding grissini through a pasta machine

4. Using a rolling pin, roll the dough into rectangles 12 in/30 cm long and the width of the rollers on a pasta machine.

5. Starting with the rollers at the widest opening and resetting them to the next setting after each complete pass, roll the dough through the pasta machine until it is the desired thickness, about ¼ in/0.6 cm or setting number 5 on most pasta machines. Trim one short edge to even it; this is the edge that should be fed into the pasta machine.

6. Using the fettuccine cutter attachment or by hand, cut the dough lengthwise into strips ¼ in/0.6 cm wide. Lay the strips crosswise on the parchment-lined sheet pans, making sure they do not touch. Brush the strips lightly with olive oil.

7. Proof, covered, until the dough rises slightly, about 30 minutes. Brush the grissini lightly with olive oil and scatter with salt and any other optional garnishes, if using.

8. Bake in a 360°F/182°C convection oven until the grissini are golden brown, 8 to 12 minutes. Cool completely on racks.

CHEF'S NOTE

In step 1, just after mixing you may add inclusions such as cheese, sun-dried tomatoes, herbs, or roasted garlic. Just make sure any inclusions are finely chopped.

FROM TOP TO BOTTOM: *Plain grissini, grissini with poppy seeds, and grissini with sesame seeds*

RYE WITH CARAWAY SEEDS FOR PULLMAN LOAVES

MAKES 25 LB 11 OZ/11.65 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	76.25%	11 lb 7 oz	5.19 kg
Medium rye flour	23.75%	3 lb 9 oz	1.62 kg
Instant dry yeast	0.6%	1½ oz	40 g
Water	61.25%	9 lb 3 oz	4.17 kg
Sugar	1.9%	4½ oz	130 g
Salt	2.2%	5¼ oz	150 g
Vegetable oil	1.9%	4½ oz	130 g
Molasses, unsulfured	1.9%	4½ oz	130 g
Caraway seeds	1.25%	3 oz	90 g

1. Combine the flours and yeast. Add the water, sugar, salt, oil, and molasses to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 3 minutes. The dough should be firm but elastic. Blend in the caraway seeds. Mix to the intense stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 45 minutes.

3. Grease eight 3-lb/1.36-kg Pullman loaf pans and lids generously. Divide the dough into pieces 2 lb 8 oz/1.13 kg each. Preshape the dough into large rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

4. Place the dough lengthwise with the seam side up. Press lightly with your fingertips to stretch it into a rectangle 8 in/20 cm long, using as little flour as possible. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten the dough.

5. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges together, keeping the seam straight. Roll the dough under your palms into a cylinder 10 in/25 cm long, keeping the pressure even and holding your hands flat and parallel to the work surface to create a smooth, even loaf.

6. Let the dough rest, covered, until relaxed, 15 to 20 minutes.

7. Turn the dough seam side up and position it so that a long side is parallel to the edge of the work surface. Work the dough lightly with your fingertips to release some of the gas, then gently stretch it into a rectangle 16 in/41 cm long and 2½ in/6 cm wide. Fold 1 in/3 cm of each short end in toward the center of the dough. Fold the long sides into the center, overlapping them slightly, and use the heel of your hand to seal the two edges together, keeping the seam straight. Fold the dough lengthwise in half and use your fingertips to seal the edges together, keeping the seam straight.

8. Roll the dough under your palms into a cylinder 18 in/46 cm long, keeping the pressure even and holding your hands flat and parallel to the work surface to create a smooth, even loaf. Push the ends of the loaf toward the center until the cylinder is 16 in/41 cm long. Place the dough seam side down in the greased loaf pans. The dough will spring back on itself slightly and fit snugly in the pan. Proof uncovered until the pans are three-quarters full and the dough springs back slowly to the touch, about 1 hour.

9. Place the oiled lids on the pans and bake at 400° to 375°F/204° to 191°C for 35 minutes, or to an internal temperature of 205°F/96°C. Remove from the pans immediately and cool on wire racks.

VARIATION

RYE ROLLS WITH CARAWAY SEEDS *Divide dough into 1 oz/30 g each pieces by hand or using a dough divider.*

SUNFLOWER SEED ROLLS

MAKES 14 LB 11 OZ/6.66 KG DOUGH. DDT: 79°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Wheat bran	11.5%	12 oz	340 g
Milk, room temperature	86.5%	5 lb 10 oz	2.55 kg
Bread flour	100%	6 lb 8 oz	3 kg
Instant dry yeast	0.65%	¾ oz	20 g
Honey	7.7%	8 oz	230 g
Sunflower oil	5.75%	6 oz	170 g
Salt	2.4%	2½ oz	70 g
Sunflower seeds, lightly toasted, plus more for garnish	11.5%	12 oz	340 g

1. Soak the wheat bran in the milk overnight. Combine the flour and yeast. Add the bran-milk mixture, the honey, oil, and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 4½ minutes. The dough should be slightly soft but with full gluten development. It will tighten up during bulk fermentation. Add the sunflower seeds and mix on low speed for 2 minutes. Mix to the intense stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 1 hour.

3. Divide the dough into pieces 4 lb/1.81 kg each. Preshape the dough into large rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20minutes.

4. Divide each piece of dough into 36 pieces (1 oz/30 g each) by hand or using a dough divider.

5. Press each piece lightly with your fingertips to flatten. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten the dough. Rotate the dough 90 degrees, fold the dough in half, and use the heel of your hand to seal the two edges together. Cup the roll in your hand and re-round the dough, applying gentle pressure to create a tight, smooth ball. Place on parchment-lined sheet pans and egg wash.

6. Proof, covered, until the dough springs halfway back slowly to the touch but does not collapse, about 40 to 50 minutes.

7. Egg wash and sprinkle with seeds.

8. Presteam a 410°F/210°C convection oven. Bake until the rolls have a golden brown crust and sound hollow when thumped on the bottom, about 15 minutes. Cool completely on racks.

VARIATION

Substitute lightly toasted pumpkin seeds for the sunflower seeds.

CLOCKWISE FROM TOP LEFT: *corn rolls, Rye Rolls with Caraway Seeds (page 130), Cheddar and Onion Rye Rolls (page 135), and Sunflower Seed Rolls (page 132)*

WHEAT PULLMAN LOAVES

MAKES 14 LB 14 OZ/6.75 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	60%	4 lb 14¾ oz	2.32 kg
Whole wheat flour	40%	3 lb 4½ oz	1.49 kg
Instant dry yeast	0.7%	1 oz	30 g
Salt	2.2%	3 oz	90 g
Sugar	4%	5¼ oz	150 g
Vegetable oil	6.7%	9 oz	260 g
Milk, room temperature	69.3%	5 lb 11 oz	2.58 kg

1. Combine the flours and yeast. Add the salt, sugar, oil, and milk to the mixer, then add the flours and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 4 minutes. The dough should be a little sticky, but with fairly good gluten development. Mix to the intense stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 45 minutes.

3. Grease six 3-lb/1.36-kg Pullman loaf pans and lids generously. Divide the dough into pieces 2 lb 8 oz/1.13 kg each.

4. Preshape the dough into oblongs 10 in/25 cm long (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

5. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten.

6. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough under your palms into a cylinder 8 in/20 cm long, moving your hands outward from the center of the cylinder toward the ends and slightly increasing the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal. Place in oiled Pullman pans.

7. Proof, uncovered, until the pans are three-quarters full and the dough springs back slowly to the touch but does not collapse, 45 to 60 minutes.

8. Place the oiled lids on the pans and bake in a 375°F/191°C convection oven for 35 minutes, or to an internal temperature of 205°F/96°C. Remove from the pans immediately and cool on racks.

CHEDDAR AND ONION RYE ROLLS

MAKES 11 LB/4.99 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	76.25%	3 lb 13 oz	1.73 kg
Medium rye flour	23.75%	1 lb 3 oz	540 g
Instant dry yeast	0.63%	½ oz	14 g
Water	71.25%	3 lb 9 oz	1.62 kg
Salt	2.5%	2 oz	60 g
Sugar	1.9%	1½ oz	40 g
Molasses, unsulfured	1.9%	1½ oz	40 g
Vegetable oil	1.9%	1½ oz	40 g
Cheddar cheese, grated	20%	1 lb	450 g
Yellow onions, medium dice	20%	1 lb	450 g

1. Combine the flours and yeast. Add the water, salt, sugar, molasses, and oil to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 4 minutes. Add the cheese and onions and mix on low speed for an additional 2 minutes. The dough should be tight with strong gluten development. Mix to the intense stage of gluten development.

2. Bulk ferment the dough until nearly doubled, 45 minutes. Fold gently.

3. Divide the dough into pieces 4 lb/1.81 kg each. Preshape the dough into large rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes.

4. Divide each piece of dough into 36 pieces (1¾ oz/50 g each) by hand or using a dough divider.

5. Press each piece lightly with your fingertips to flatten. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten the dough. Rotate the dough 90 degrees, fold the dough in half, and use the heel of your hand to seal the two edges together. Cup the roll in your hand and re-round the dough, applying gentle pressure to create a tight, smooth ball. Place on parchment-lined sheet pans.

6. Proof, covered, until the dough springs back halfway slowly to the touch but does not collapse, about 45 minutes.

7. Score the rolls with a straight cut down the center.

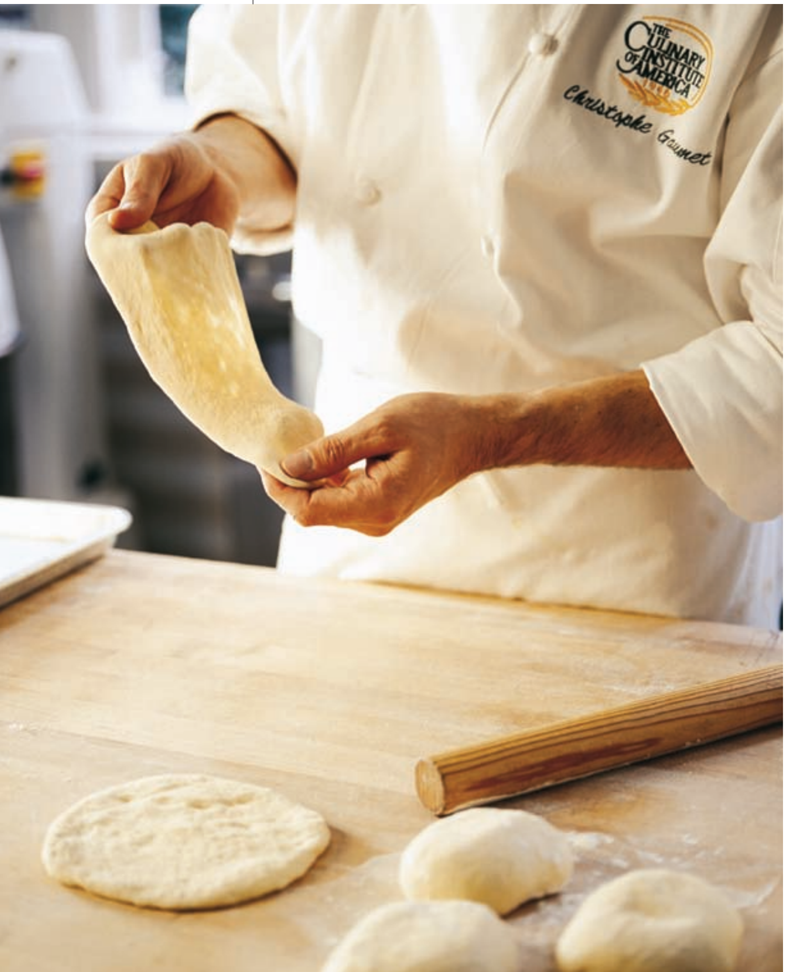
8. Presteam a 425°F/218°C deck oven. Load the rolls into the oven and steam for 3 seconds. Bake until the rolls have a golden brown crust and sound hollow when thumped on the bottom, about 15 minutes. Vent during the last 3 minutes. Cool completely on racks.

NAAN

MAKES 1 LB 11¼ OZ/773 G DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
All-purpose flour	100%	14 oz	400 g
Instant dry yeast	2.4%	¼ oz	7 g
Water	42.9%	6 oz	170 g
Clarified butter	14.3%	2 oz	60 g
Plain yogurt	14.3%	2 oz	60 g
Eggs	12.5%	1¾ oz	60 g
Sugar	7.2%	1 oz	30 g
Salt	1.8%	1¼ tsp	7.5 g
Clarified butter, melted		As needed	As needed
Poppy seeds or black onion seeds, for garnish		2 tbsp	10 g

Stretching the naan into a teardrop shape



1. Combine the flour and yeast. Add the water, butter, yogurt, eggs, sugar, and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes. The dough should be very elastic but still wet. Mix to the improved stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 1 hour. Fold gently.

3. Divide the dough into 3-oz/90-g pieces. Preshape the dough into small rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes.

4. Line sheet pans with parchment paper.

5. Work sequentially, starting with the first piece of dough you divided and rounded. Gently stretch each piece of dough into a round 7 in/18 cm in diameter, so that the center is ¼ in/0.6 cm thick and there is a border ½ in/1 cm wide all around. Pull one edge out to elongate each round slightly, creating a teardrop shape.

6. Place the breads on the sheet pans, brush them with clarified butter, and sprinkle with seeds.

7. Bake in a 425°F/218°C deck oven until golden brown and puffed, about 10 minutes. Cool completely on racks.

LAVASH

MAKES 11 LB 5¼ OZ/5.14 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	46%	2 lb 14 oz	1.3 kg
Durum flour	20 %	1 lb 4 oz	570 g
Cake flour	17%	1 lb 1 oz	480 g
Whole wheat flour	17%	1 lb 1 oz	480 g
Instant dry yeast	0.5%	½ oz	14 g
Milk, room temperature	42.5%	2 lb 11 oz	1.22 kg
Water	29.25%	1 lb 13¼ oz	830 g
Molasses, unsulfured	3.25%	3¼ oz	90 g
Honey	3.25%	3¼ oz	90 g
Salt	2.5%	2½ oz	70 g
Olive oil		As needed	As needed
Sesame seeds, for garnish		As needed	As needed
Poppy seeds, for garnish		As needed	As needed

1. Combine the flours and yeast. Add the milk, water, molasses, honey, and salt to the mixer, then add the flours and yeast. Mix with the dough hook attachment on low speed for 10 minutes. The dough should pull cleanly away from the sides of the bowl but still be wet and soft. Mix to the intense stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 30 minutes. Fold gently. Divide the dough into 1-lb/450-g pieces and retard overnight.

3. Preshape the dough into large rounds (for preshaping instructions, see page 111). Refrigerate for 1 hour. Lightly brush 11 or 12 sheet pans with olive oil.

4. Work sequentially, starting with the first piece of dough you divided and rounded. Roll each piece of dough to 1⁄16 in/0.15 cm thick on a dough sheeter, flouring the dough periodically as you roll it. The dough should be 16½ by 24½ in/42 by 62 cm (see Chef's Notes). You may also roll by hand using a rolling pin.

5. Place each sheet of dough on one of the greased sheet pans. If the dough is not big enough to cover the entire pan, have another person help stretch it to fit the sheet pan; use the backs of your hands to gently stretch the dough (see Chef's Notes).

6. Brush the top of the dough lightly with water and sprinkle with seeds of your choice.

7. Allow the dough to relax for 15 to 20 minutes.

8. Bake in a 375°F/191°C convection oven until light golden brown, 12 to 15 minutes. Cool completely on racks, then wrap well.

CHEF'S NOTES:

You can also stretch the dough using the backs of your hands, similar to the way you stretch strudel dough (for information, see "Strudel Dough," page 236, and Apple Strudel, page 664). If you shape the dough by hand, it is important to keep the dough even; if it is stretched unevenly, it will bake unevenly.

You can bake the lavash 70 percent of the way, until it is baked but not yet golden brown, and then reheat it before service in a 400°F/204°C oven.

PITA

MAKES 10 LB 1¼ OZ/4.57 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	50%	3 lb	1.36 kg
Whole wheat flour	50%	3 lb	1.36 kg
Instant dry yeast	0.78%	¾ oz	20 g
Water	62.5%	3 lb 12 oz	1.7 kg
Olive oil	3.2%	3 oz	90 g
Salt	2.3%	1¼ oz	40 g
Sugar	0.4%	2½ tsp	10 g

1. Combine the flours and yeast. Add the water, olive oil, salt, and sugar to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 3 minutes. The dough should be slightly moist but with strong gluten development. Mix to the intense stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 60 minutes.

3. Divide the dough into 4½-oz/130-g pieces. Preshape the dough into small rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes.

4. Line sheet pans with parchment paper.

5. Work sequentially, starting with the first piece of dough you divided and rounded. Using a rolling pin, roll each piece of dough into a round 7 in/18 cm in diameter. Transfer the rounds to the sheet pans, cover, and let them relax for 20 minutes.

6. Load the pitas into a 500°F/260°C deck oven and bake until puffed but not browned, 3 to 4 minutes. Stack the pitas five high and wrap each stack in a cloth. Cool before serving.

DURUM PIZZA DOUGH

MAKES 6 LB 4 OZ/2.84 KG DDT: 82°F/28°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Water, 80°F/27°C	63.3%	2 lb 6½ oz	1.09 kg
Malt syrup	0.7%	½ oz	14 g
Olive oil	3.6%	2 oz	60 g
Bread flour	57.7%	2 lb 3 oz	990 g
Durum flour	42.3%	1 lb 10 oz	740 g
Yeast, instant dry	0.7%	½ oz	14 g
Salt	2.8%	1¾ oz	50 g
Oil, for brushing		As needed	As needed
Toppings of choice		As needed	As needed

1. Make the dough the day before serving the pizza. Combine the water, malt, and oil. Combine the flours with the yeast, then add to the bowl with the other ingredients. Add the salt and place the bowl on a mixer fitted with a dough hook. Mix on low speed for 4 minutes, making sure to scrape down and flip the dough over. Mix on medium speed for 3 minutes, making sure to scrape down and flip the dough over. The dough should feel slightly sticky but have fairly good gluten development. Place the dough in a lightly oiled bowl large enough for it to double in size and cover with plastic wrap.

2. Allow the dough to rest and ferment in a warm place for 30 minutes, until the dough springs back halfway when lightly touched.

3. Place the dough on a lightly floured work surface and divide it into 10-oz/280-g pieces. Round the pieces against the tabletop. Tightly wrap the dough in plastic wrap and refrigerate for a minimum of 8 hours or overnight, or freeze until ready to use.

4. One hour before use, remove as much dough as you need from the refrigerator and let it rest at room temperature until it has lost its chill.

5. Place the dough on a lightly floured work surface and roll each piece into a circle about 12 in/30 cm in diameter.

6. Preheat the oven to 500°F/260°C with a baking stone. Create a 1:1 mixture of semolina flour and bread flour. Place the rolled dough on a peel lightly floured with the semolina-flour mixture, then lightly brush the dough edges with oil. Apply chosen toppings as desired.

7. Transfer the dough to the baking stone and immediately lower the temperature to 450°F. Bake for 14 to 16 minutes, or until the crust is golden brown on the edges.

CHALLAH (THREE-BRAID)

MAKES 9 LB 6½ OZ/4.27 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	100%	5 lb 4 oz	2.38 kg
Instant dry yeast	1.2%	1 oz	30 g
Water	38%	2 lb	1.02 kg
Egg yolks	19%	1 lb	450 g
Vegetable oil	9.5%	8 oz	230g
Sugar	9.5%	8 oz	230 g
Salt	1.8%	1½ oz	40 g
White rye or bread flour, for dusting		As needed	As needed
Egg Wash (page 1064) made with yolks only		As needed	As needed

1. Combine the flour and yeast. Add the water, egg yolks, oil, sugar, and salt to the mixer, then add flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 4 minutes. The dough should be slightly firm and smooth, not sticky. Mix to the intense stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 1 hour. Fold gently.

3. Divide the dough into 5½-oz/160-g pieces. Preshape the dough into small oblongs (for preshaping instructions, see page 111). Allow the dough to rest, covered, until relaxed, 10 to 15 minutes. Fold the dough over in thirds, then shape.

4. Start with the first piece of dough that you shaped and work sequentially. Starting at the center of the dough, roll each piece outward, applying gentle pressure with your palms. Apply very little pressure at the center of the dough, but increase the pressure as you roll toward the ends of the dough. Roll each piece of dough into an evenly tapered strand 12 in/30 cm long. It is imperative that all of the strands be the same length. If they are not, the finished braid will be uneven.

5. Dust the top of the strands very lightly with white rye flour. (This will keep the dough dry as you braid, and help maintain the overall definition of the braid.) Lay three strands of dough vertically parallel to each other. Begin braiding in the center of the strands. Place the left strand over the center strand, then place the right strand over the center strand. Repeat this process until you reach the end of the dough. Pinch the ends together tightly. Turn the braid around and flip it over so that the unbraided strands are facing you. Starting again from the left, repeat the braiding process until you reach the end of the dough. Pinch the ends together tightly. Place on parchment-lined sheet pans.

6. Brush the dough lightly with the egg wash. Proof the dough, covered, until the dough springs back halfway slowly to the touch but does not collapse, about 1 hour. (There should be a small indentation left in the dough.) Egg wash the dough, very gently, before baking.

7. Bake in a 350°F/177°C convection oven until the braids are dark golden brown and shiny, 18 to 22 minutes. Cool completely on racks.

VARIATION

CHALLAH (SIX-BRAID)

1. Work through step 2 of the main method. Divide the dough into 2¾-oz/80-g pieces. Preshape the dough into small oblong pieces (for preshaping instructions, see page 111). Allow the dough to rest, covered, until relaxed, 15 to 20 minutes.

2. Start with the first piece of dough that you shaped and work sequentially. Starting at the center of the dough, roll each piece outward, applying gentle pressure with your palms. Apply very little pressure at the center of the dough, but increase the pressure as you roll toward the ends of the dough. Roll each piece of dough into an evenly tapered strand 12 in/30 cm long. It is imperative that all of the strands be the same length. If they are not, the finished braid will be uneven.

3. Dust the top of the strands very lightly with white rye flour. This will keep the dough dry as you braid and help maintain the overall definition of the braid.

4. Lay out six strands of dough, separating them through the center, so they are grouped into three and three.

5. Move the strand of dough on the far left (1) under the center strand on the right (4).

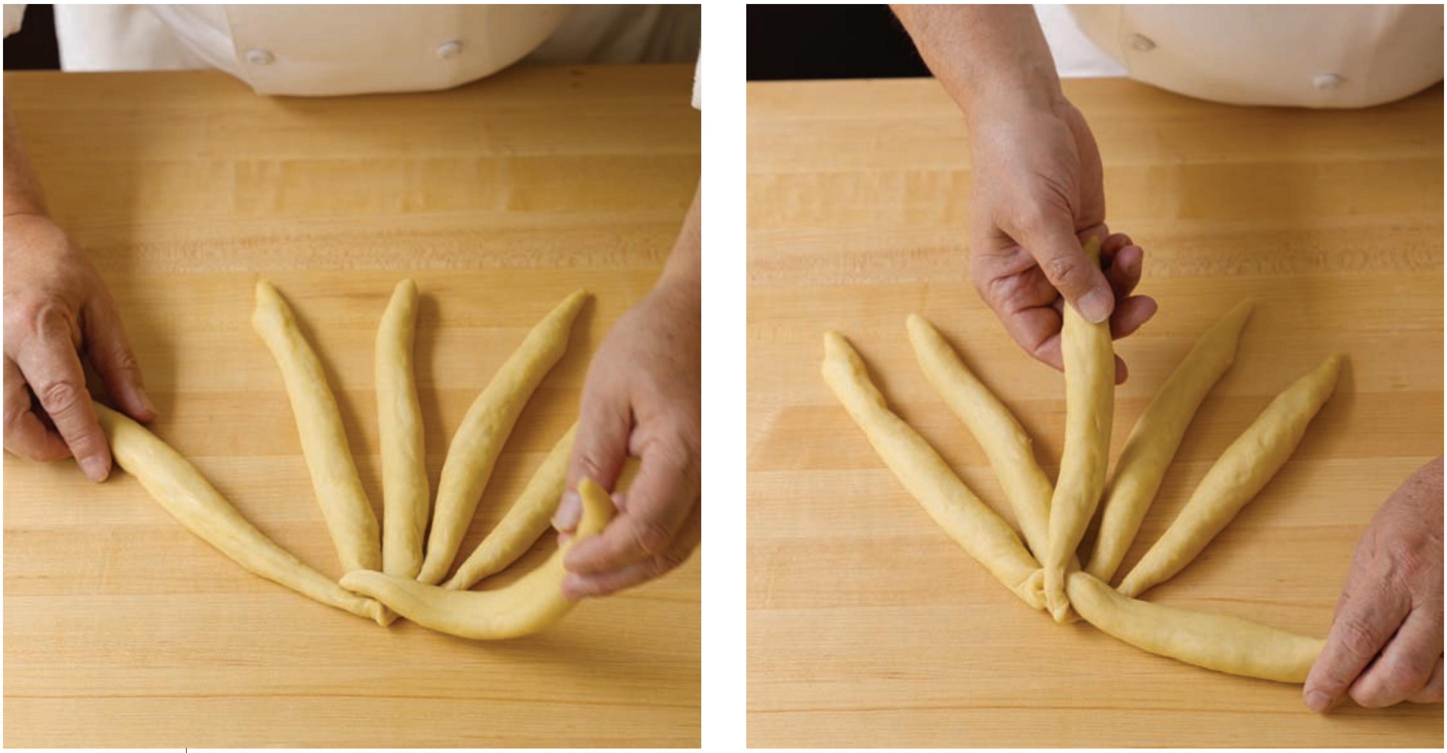
6. Bring strand 6 over to the right side. Bring strand 1 over strand 6 and place next to strand 3.

7. Bring strand 2 over to the left side. Bring strand 6 over strand 2 and place next to strand 4.

8. Continue to bring the outer strands over and under the inner strands in this manner. When finished, pinch the ends together and place on parchment-lined sheet pans.

9. Brush the dough lightly with egg wash made solely from egg yolks. Proof the dough, covered, until the dough springs back slowly to the touch but does not collapse, about 1 hour. (There should be a small indentation left in the dough.) Make sure that the egg wash is dry before you apply a second coat. Egg wash the dough a third time, very gently, before baking.

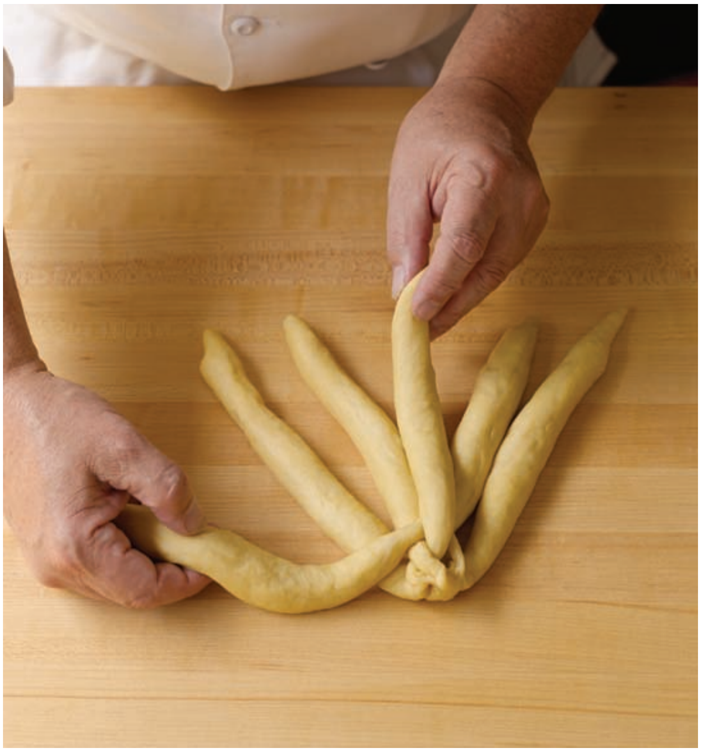
10. Bake in a 350°F/177°C convection oven until the braids are dark golden brown and shiny, 20 to25 minutes. Cool completely on racks.

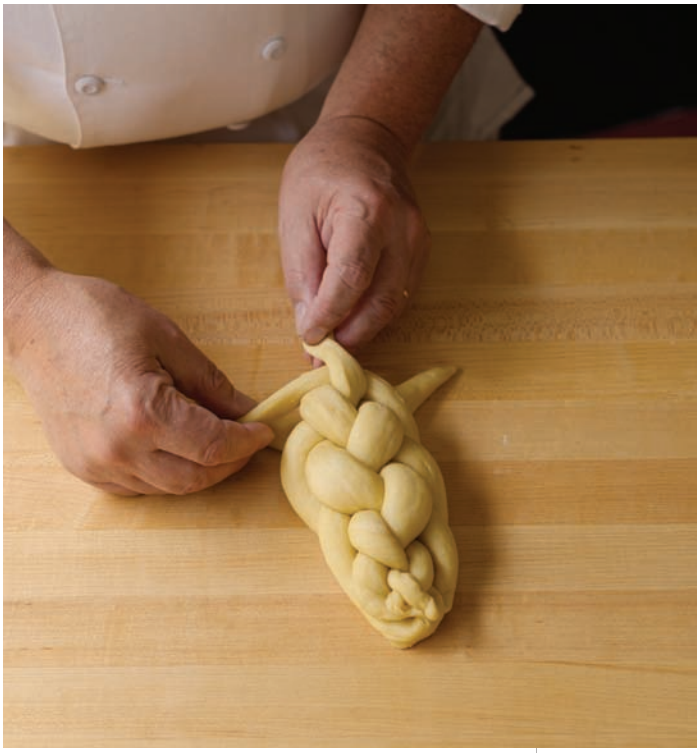


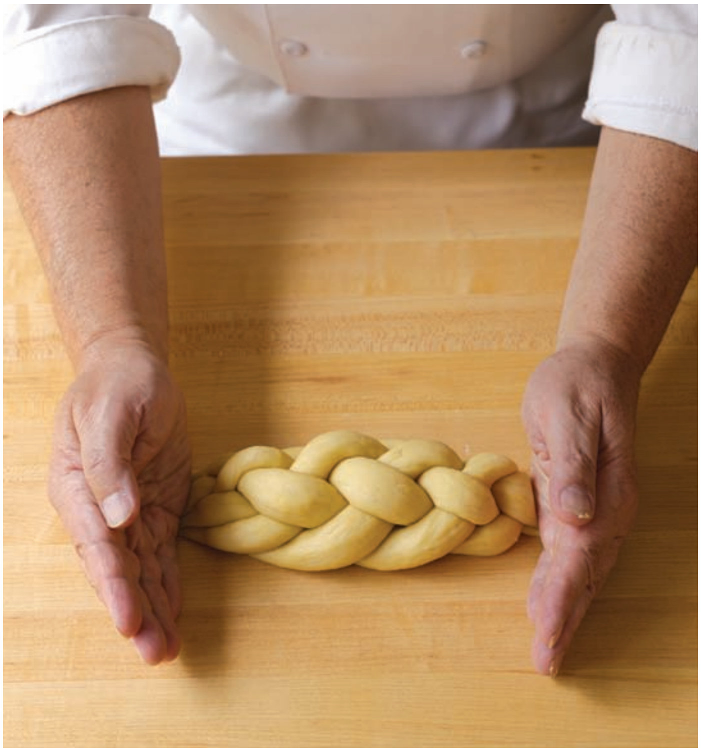
Pinch the ends of the strands together.

LEFT: *Fold the second strand from the right across the strands to the opposite side.*

RIGHT: *Place the strand that is now furthest on the right in the center of the strands.*







TOP LEFT: *Bring the strand that is the second from the left to the outer right of the strands and then put the leftmost strand in the center.*

TOP RIGHT: *Continue braiding using the same steps all the way to the end of the braid.*

BOTTOM LEFT: *Continue to braid. Make sure the ends are connected and tucked under to achieve a uniform loaf.*

RAISIN BREAD

MAKES 14 LB 14½ OZ/6.76 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	100%	6 lb 4 oz	2.83 kg
Instant dry yeast	1.5%	1½ oz	40 g
Milk, room temperature	80%	5 lb	2.27 kg
Honey	3%	3 oz	90 g
Salt	2%	2 oz	60 g
Raisins	52%	3 lb 4 oz	1.47 kg

1. Combine the flour and yeast. Add the milk, honey, and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 4 minutes. The dough should have good gluten development but also be soft and slightly moist. Blend in the raisins. Mix to the intense stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 1 hour.

3. Divide the dough into pieces 1 lb 4 oz/570 g each. Preshape the dough into large rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

4. To shape as a boule: Cup both hands around the dough. Using your thumbs, push the dough away from you in an arc to the right, keeping a small piece of dough between the table and the edges of your palms. Using the edges of your palms as a guide, pull the dough toward you in an arc to the left. There should still be a small piece of dough that is squeezed between the table and the edges of your palms. Repeat this circular motion two or three more times, applying gentle pressure while rounding the dough, to create a tight, smooth outer skin. Place the boule seam side up in a round basket or seam side down on a board dusted with cornmeal.

5. Proof, covered, until the dough springs back slowly to the touch, 1 to 1½ hours. Place the dough seam side down onto a peel. Score the boule with an arc.

6. Presteam a 460°F/238°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 25 to 30 minutes. Vent during the final 10 minutes. Cool completely on racks.

VARIATIONS

Substitute currants for the raisins.

Substitute walnuts for half of the raisins.

BRIOCHE

MAKES 11 LB 2 OZ/5.05 KG DOUGH. DDT: 75°F/24°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	100%	5 lb	2.27 kg
Instant dry yeast	1.7%	1¼ oz	40 g
Eggs	40%	2 lb	910 g
Milk, room temperature	20%	1 lb	450 g
Sugar	2%	1½ oz	40 g
Butter, soft but still pliable	60%	3 lb	1.36 kg
Egg Wash (page 1064)		As needed	As needed

1. Combine the flour and yeast. Add the eggs, milk, sugar, and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes.

2. Gradually add the butter, with the mixer running on medium speed, scraping down the sides of the bowl as necessary. After the butter has been fully incorporated, mix until the dough begins to pull away from the sides of the bowl.

3. Line a sheet pan with parchment paper and grease the parchment. Place the dough on the prepared sheet pan. Cover tightly with plastic wrap and refrigerate overnight.

4. Remove the dough from the refrigerator and divide it into 2 pieces. Divide each by hand into pieces that are 2 oz/60 g each. Preshape each piece into a round, lightly flouring the work surface as needed. Refrigerate until cool, 20 to 30 minutes.

5. Lightly oil 90 brioche tins.

6. Start with the first piece of dough that you shaped and work sequentially. The remainder of the dough may need to be refrigerated during shaping to keep it cool and workable. Roll each piece of dough into a ball. Lightly coat the side of your hand with flour. Make a têete (head) by pinching off one-quarter of the dough ball with the side of your hand and rolling it back and forth on the worktable, making a depression in the dough to pinch but not detach one-quarter of the ball; the larger piece of dough should be about 2¾ in/7 cm long and the tête 1 in/3 cm long.

7. Flour your fingertips lightly and gently press a hole all the way through the center of the larger portion of dough. Place the tête into the center of the larger piece of dough and push it through the hole. Place each brioche into a greased brioche tin, with the tête on top.

8. Brush the brioches lightly with egg wash, brushing away any excess that accumulates in the crevices. Proof, covered, until the dough springs back slowly to the touch but does not collapse, 1½ to 2 hours.

9. Gently brush the brioches again with egg wash. Bake in a 375°F/191°C deck oven until a rich golden brown, 12 to 15 minutes. Cool for 10 minutes in the tins, then promptly remove and finish cooling on racks.

VARIATIONS

BRIOCHE LOAF

1. Follow the recipe above through step 3.

2. Lightly grease ten to twelve 2-lb/910-g loaf pans (4½ in/11 cm wide, 8 in/20 cm long, and 3 in/8 cm deep).

3. Remove the dough from the refrigerator and divide it by hand into 2-oz/60-g pieces. Preshape each piece into a round, lightly flouring the work surface as needed. (Reminder: Refrigerate the dough as necessary during shaping to keep it cool and workable.) Refrigerate the rolls until cool, about 15 minutes.

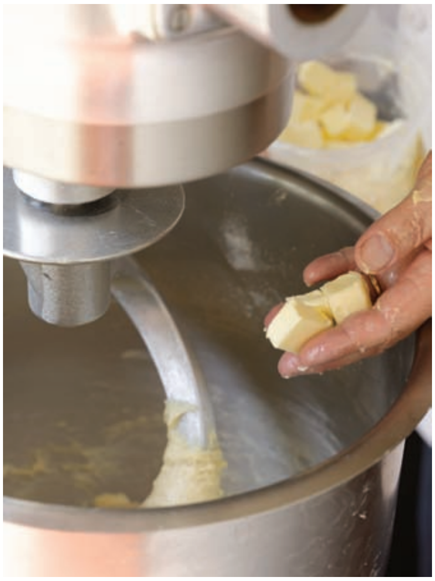
4. Place the pieces of dough in the loaf pan in two rows of four. Brush lightly with egg wash, brushing away any excess that accumulates in the crevices. Proof, covered, until the dough is almost double in size and springs back slowly to the touch but does not collapse, 1 to 2 hours.

5. Gently brush the dough again with egg wash. Bake in a 375°F/191°C deck oven until the crust is a rich golden brown and the sides of the bread spring back fully when pressed, 30 to 35 minutes. Remove from the pans and cool completely on racks.

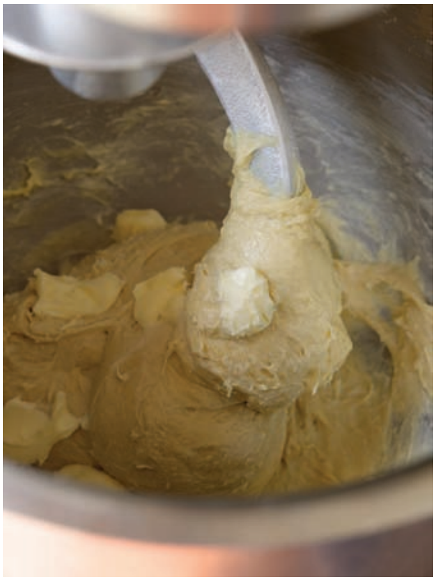
VARIATIONS

ORANGE BRIOCHE DOUGH *Add 1 oz/30 g finely grated orange zest to the brioche dough with the butter in step 2.*

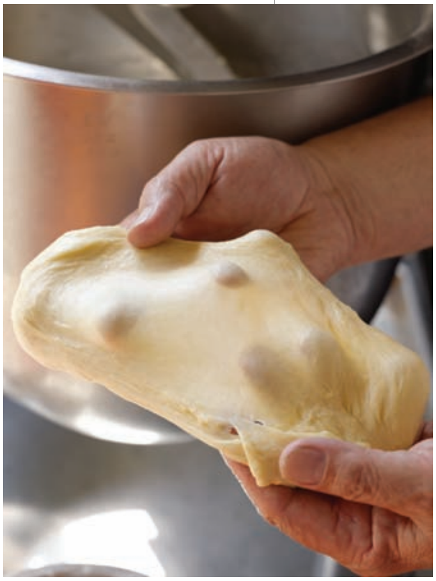
CRAQUELIN DOUGH *Add 3 lb/1.36 kg sugar cubes to Orange Brioche Dough after step 3. Cut up the dough into small chunks. Place half the dough into the mixer. Add the sugar cubes and then the other half of the dough and mix to incorporate (see Craquelin, page 147).*



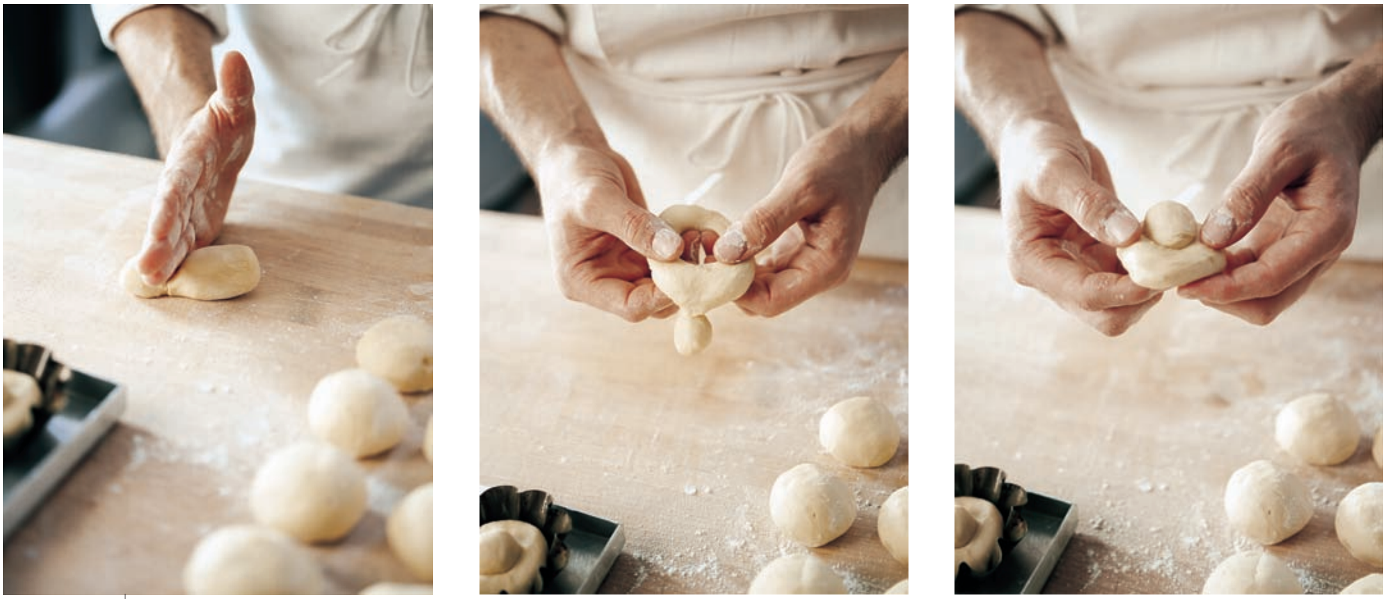
TOP LEFT: *Blitzing the butter into the dough while it is mixing*



TOP CENTER: *The butter chunks as they are incorporated*



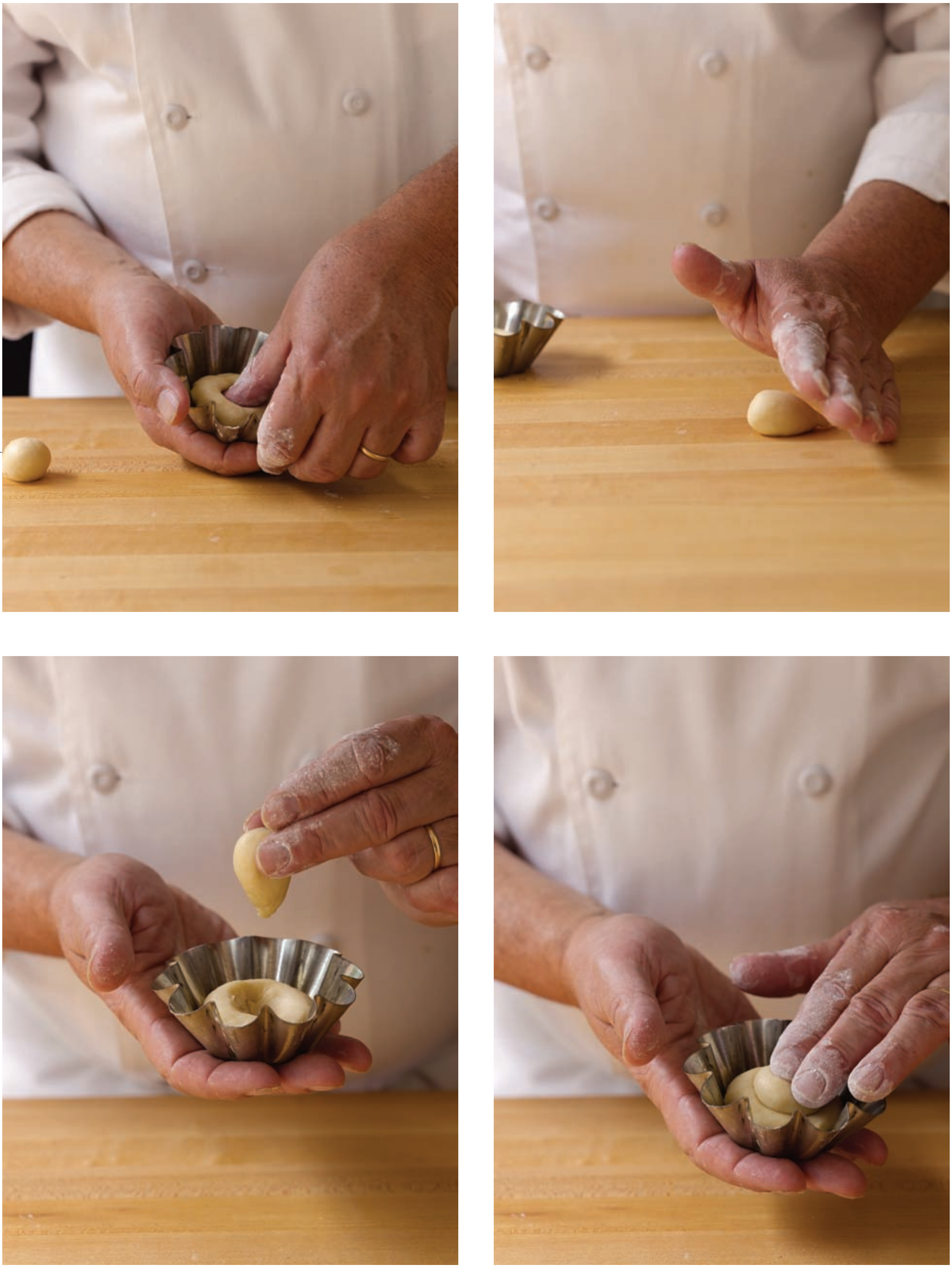
TOP RIGHT: *Properly mixed brioche dough after mixing is complete*



BOTTOM FROM LEFT TO RIGHT: *Making the head on brioche à tête by pinching one quarter of the dough ball with the side of your hand and rolling back and forth on the work table*

Use your fingertips to make a hole in the center of the larger piece of the dough.

Push the head of the dough into the hole.



TOP LEFT: *Place a ball of dough into the mold and make an indentation with your thumb.*

TOP RIGHT: *Taper a second ball of dough using the edge of your hand.*

BOTTOM LEFT: *Place the tapered piece into the indentation.*

BOTTOM RIGHT: *Press to adhere the two pieces.*

CRAQUELIN

MAKES 1 LOAF

INGREDIENT	BAKER'S %	U.S.
Craquelin Dough (page 145)	12 oz	340 g
Orange Brioche Dough (page 145)	3 oz	90 g
Egg Wash (page 1064)	As needed	As needed
Crystal sugar, for sprinkling	As needed	As needed

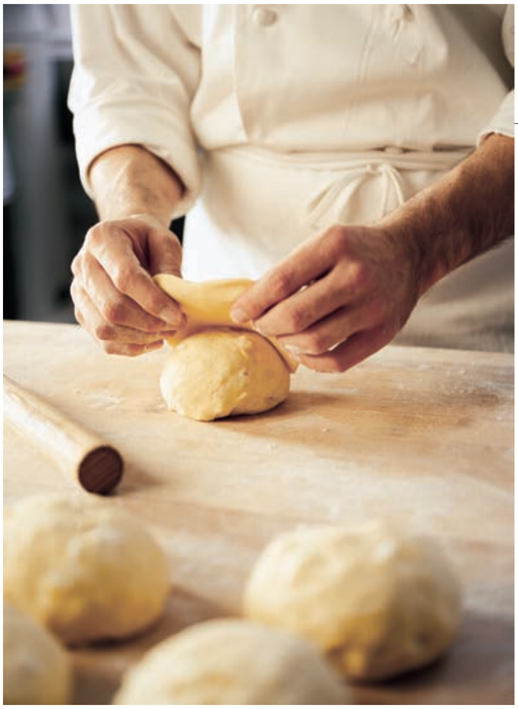
1. Coat a panettone wrapper (5-in/13 cm in diameter and 6 in/15 cm high) with a light film of fat. Preshape the craquelin into a large round. Let the craquelin dough rest, covered, until relaxed, about 45 minutes. Meanwhile, preshape the brioche dough into a round and let rest, covered under refrigeration, until relaxed, about 30 minutes.

2. Roll the orange brioche dough into a 6-in/15-cm diameter circle. Egg wash and wrap it around the craquelin dough to enclose it completely, and gather the edges together at the bottom to form a boule. Place the loaf seam side down in the prepared paper wrapper.

3. Proof, covered, until the dough springs back slowly to the touch but does not collapse, 2 to 3 hours.

4. Egg wash and sprinkle crystal sugar. Score the loaf with an X in the center or snip the entire surface with scissors.

5. Presteam a 375°F/191°C convection oven. Load the bread into the oven and steam for 5 seconds. Bake until the crust is golden brown and the sides of the bread spring back fully when pressed through the wrapper, 25 to 30 minutes. Cool completely on a rack.



Form a thin sheet of orange brioche around the craquelin.

VARIATION

To make small craquelin, divide the craquelin dough into 2½-oz/70-g pieces and the orange brioche dough into 1-oz/28-g pieces. Follow the method above but when preshaping, use the method for small rounds on page 112.

CINNAMON SWIRL BREAD

MAKES 16 LB 5¾ OZ/7.42 KG DOUGH DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	100%	8 lb 1 oz	3.66 kg
Instant dry yeast	0.78%	1 oz	30 g
Milk, room temperature	52.7%	4 lb 4 oz	1.93 kg
Butter, soft	9.1%	11¾ oz	330 g
Sugar	9.1%	11¾ oz	330 g
Eggs	9.1%	11¾ oz	330 g
Salt	2.3%	3 oz	90 g
Raisins	18.6%	1 lb 8 oz	680 g
Ground cinnamon	1.2%	1½ oz	40 g
Egg Wash (page 1064)		As needed	As needed
Cinnamon Sugar (page 1070), made with brown sugar		12 oz	340 g

1. Combine the flour and yeast. Add the milk, butter, sugar, eggs, and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 4 minutes; add the raisins and mix for 2 minutes on low speed, then add the cinnamon, mixing just long enough to create a swirl. The dough should be slightly soft. Mix to the intense stage of gluten development.

2. Bulk ferment the dough until nearly doubled, 45 to 60 minutes.

3. Divide the dough into 1lb 4-oz/570-g pieces. Preshape the dough into large oblongs (for preshaping instructions, see page 111). Lightly grease twelve 2-lb/910-g loaf pans (4½ in/11 cm wide, 8 in/20 cm long, and 3 in/8 cm deep). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

4. Roll the dough into even rectangles 8 by 12 in/20 by 30 cm. Brush the dough lightly with egg wash and sprinkle 1 oz/30 g cinnamon sugar evenly over the surface. Roll the dough up along the 12-in/30-cm side under your palms into a cylinder 8 in/25 cm long, keeping the pressure even and holding your hands flat and parallel to the work surface to create a smooth, even loaf.

5. Place the dough seam side down in a greased loaf pan. The dough will spring back on itself slightly and fit snugly in the pan. Brush the loaf lightly with egg wash. Proof, covered, until the dough fills the pan and springs back slowly to the touch but does not collapse, 1½ to 2 hours.

6. Gently brush the bread again with egg wash. Score to the first layer of cinnamon. Bake in 400°F/204°C convection oven for 25 to 30 minutes, or to an internal temperature of 205°F/96°C. Cool completely on racks.

YEAST-RAISED DOUGHNUTS

MAKES 5 LB 5½ OZ/2.42 KG DOUGH. DDT: 80°F/27°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	62.4%	1 lb 10½ oz	750 g
Pastry flour	37.6%	1 lb	450 g
Instant dry yeast	3.2%	1¼ oz	40 g
Water	50%	1 lb 5¼ oz	610 g
Eggs	12.4%	5¼ oz	150 g
Sugar	6.5%	2¾ oz	80 g
Nonfat dry milk	6.5%	2¾ oz	80 g
Baking powder	1.75%	¾ oz	20 g
Salt	1.75%	¾ oz	20 g
Ground nutmeg	0.35%	1 tsp	2 g
Emulsified shortening	18.8%	8 oz	230 g
Oil, for frying		As needed	As needed

1. Combine the flours and yeast. Add the water, eggs, sugar, dry milk, baking powder, salt, and nutmeg to the mixer, then add the flours and yeast. Mix with the dough hook attachment on low speed for 2 minutes, or until the ingredients are well incorporated. Add the shortening and mix on medium speed for 8 minutes. Mix to the intense stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 30 minutes. Fold gently. Ferment for another 30 minutes.

3. Roll the dough to ½ in/1 cm thick. Let the dough rest, covered, until relaxed, 10 minutes.

4. Line sheet pans with parchment paper and lightly brush the paper with oil. Cut the doughnuts with a doughnut cutter or with two round cutters (use a 3-in/8-cm cutter for the doughnuts and a 1-in/3-cm cutter for the holes; keep the holes centered so the doughnuts fry evenly).

5. Proof, covered, on the sheet pans until the dough springs back slowly to the touch but does not collapse, 15 minutes.

6. Carefully transfer the proofed doughnuts, a few at a time, to a deep fryer at 350°F/177°C and fry until golden brown on the first side, 2 minutes. Turn and fry until the second side is golden and the doughnuts are cooked through, 2 minutes.

7. Lift the doughnuts from the hot oil with a spider or basket, allowing the oil to drain away directly over the fryer. Drain on paper towels before coating or topping as desired.

JELLY DOUGHNUTS

MAKES 4 LB 8 OZ/2.04 KG DOUGH. DDT: 68°F/20°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	100%	2 lb 4 oz	1.02 kg
Instant dry yeast	2.8%	1 oz	30 g
Milk	45.4%	1 lb	450 g
Butter, soft	14.9%	5¼ oz	150 g
Sugar	14.9%	5¼ oz	150 g
Eggs	14.9%	5¼ oz	150 g
Egg yolks	5.7%	2 oz	60 g
Salt	0.7%	1½ tsp	9 g
Lemon zest, grated	1.4%	½ oz	14 g
Vanilla extract	1.4%	1 tbsp	15 mL
Oil, for frying		As needed	As needed
Raspberry jam		2 lb 4 oz	1.02 kg
Granulated sugar, for coating		As needed	As needed
Confectioners' sugar, for dusting		As needed	As needed

1. Combine the flour and yeast. Add the milk, butter, sugar, eggs, egg yolks, salt, lemon zest, and vanilla to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 8 to 12 minutes. The dough should have very strong gluten development and be very tight but smooth. Mix to the intense stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 30 minutes. Fold gently. Ferment for another 30 minutes.

3. Line a sheet pan with parchment paper and grease the parchment. Divide the dough into 36 pieces (2 oz/60 g each) by hand or with a dough divider. Shape each piece into a tight round and press lightly with the palm of your hand to flatten slightly. Transfer, seam side down, to the sheet pan.

4. Proof, covered, until the dough springs back slowly to the touch but does not collapse, 45 to 60 minutes.

5. Carefully transfer the proofed doughnuts, a few at a time, seam side up, to a deep fryer at 350°F/177°C and fry, covered, until golden brown on the first side, 1 minute. Turn and fry, uncovered, another 1½ minutes. Turn once more and fry until the top is deep golden brown, 20 to 30 seconds. Lift the doughnut from the hot oil with a spider or basket, allowing the oil to drain away over the fryer. Drain on paper towels just until cool enough to handle.

6. Fill a pastry bag fitted with a small plain pastry tip and inject 1 oz/30 g of the raspberry jam into each doughnut. Dip both sides of each one in granulated sugar, place them seam side down on racks, and sift confectioners' sugar over them once they are fully cooled.

8

ADVANCED YEAST BREADS AND ROLLS

The way in which yeast is introduced into the dough—by either direct or indirect fermentation—gives the bread baker the range of techniques necessary to create simple lean dough quickly and efficiently and to create hearty breads using such indirect fermentation methods as sponges, poolishes, bigas, and sourdoughs. This chapter examines these more complex methods and presents numerous examples of their use in popular baked goods.

INDIRECT FERMENTATION AND PRE-FERMENTS

THE LONGER THE YEAST in a dough remains active, the better the flavor and texture of the finished bread will be. Indirect fermentation means that some portion of the dough is allowed to ferment on its own before being mixed with the remainder of the formula's ingredients. This portion, often referred to as a *pre-ferment*, typically includes only flour, water (or milk), and some or all of the yeast called for in the final dough.

It is important to plan for pre-ferments in a production schedule. The time requirement for each type of pre-ferment is slightly different, as noted below.

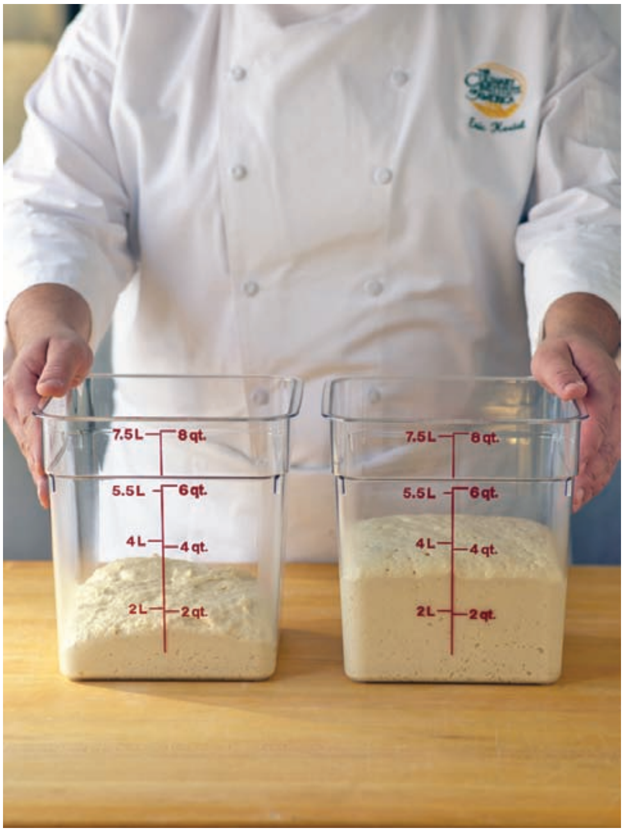
Pâte fermentée, or "old dough," is nothing more exotic than a piece of a lean dough reserved from the previous day's production. The dough is covered and refrigerated until needed, then added along with the other ingredients to make a batch of dough, as in the Lean Dough formula on page 118. The yeast in the pâte fermentée has undergone an extended fermentation, normally 6–8 hours, and has developed an appealing, slightly "fermented" flavor.

The **sponge** method combines one-third to one-half of the formula's total flour with all the yeast and enough liquid to make a stiff-to-loose dough. The sponge can be made directly in the mixing bowl, as the fermentation period is typically less than one hour. When the sponge has doubled in size, the remaining ingredients are mixed in to make the final dough.

A **poolish** combines equal parts flour and water (by weight) with some yeast (the amount varies according to the expected length of fermentation time, using less for longer, slower fermentations). The poolish is fermented at room temperature long enough to double in volume and start to recede, or decrease, in volume. This may take anywhere from 12–16 hours hours depending on the amount of yeast. The poolish should be mixed in a plastic or other nonreactive container large enough to hold the mixture comfortably as it ferments.

A **biga** is the stiffest of the pre-ferments. It contains flour and enough water to equal 50 to 60 percent of the flour's weight, as well as 0.33 to 0.5 percent of the formula's total yeast. After the biga has properly fermented (16–18 hours), it must be loosened with a portion of the formula's liquid to make it easier to blend into the dough.

Sourdough is established by capturing wild yeast in a flour and water dough. All this requires is about 15 minutes of your time each day. You will have to mix flour and water together the first day, stir it the next, then take some of the mixture the third day and feed it with more flour and water, and continue in this fashion until you've reached day seven to twelve, depending on the environment. It pays to be consistent in the type of flour you use to build your base sour. Calculate the total amount of flour you will need and make sure you have enough of the flour at the beginning to complete all seven days of feedings while you are establishing the sour. If you change the type of flour during this process, it can alter the results. You will also want to make enough of the sour so you have some left over after you've made your bread. This way, you will have a piece of the sour to feed and keep alive for future batches of bread.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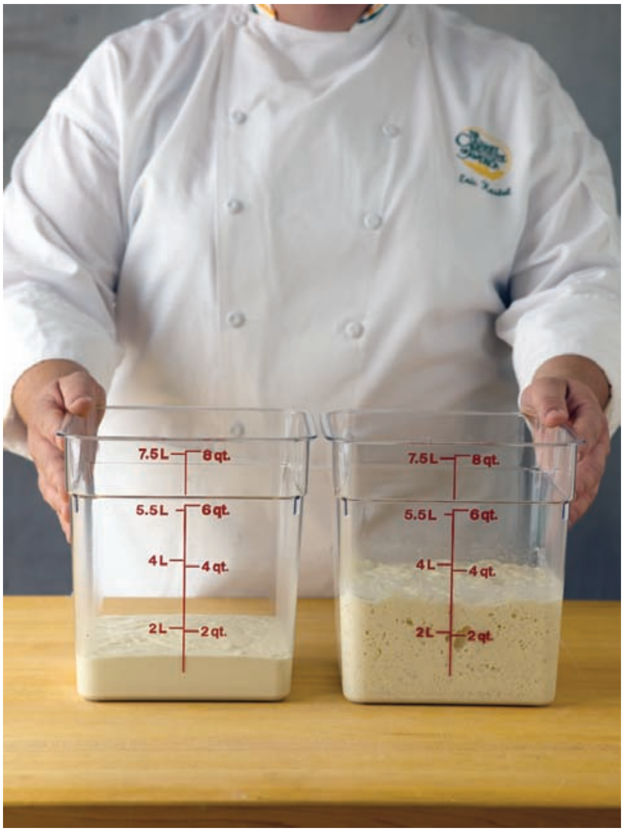
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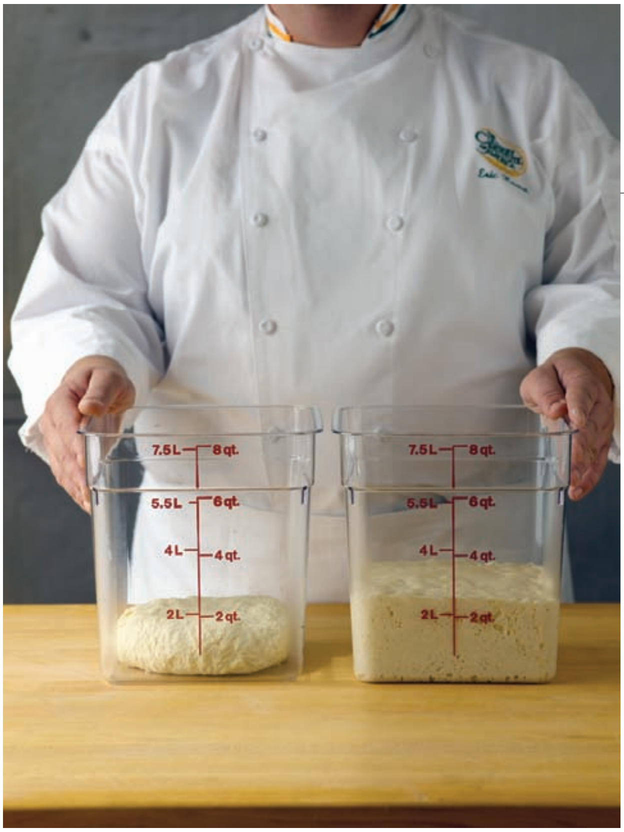
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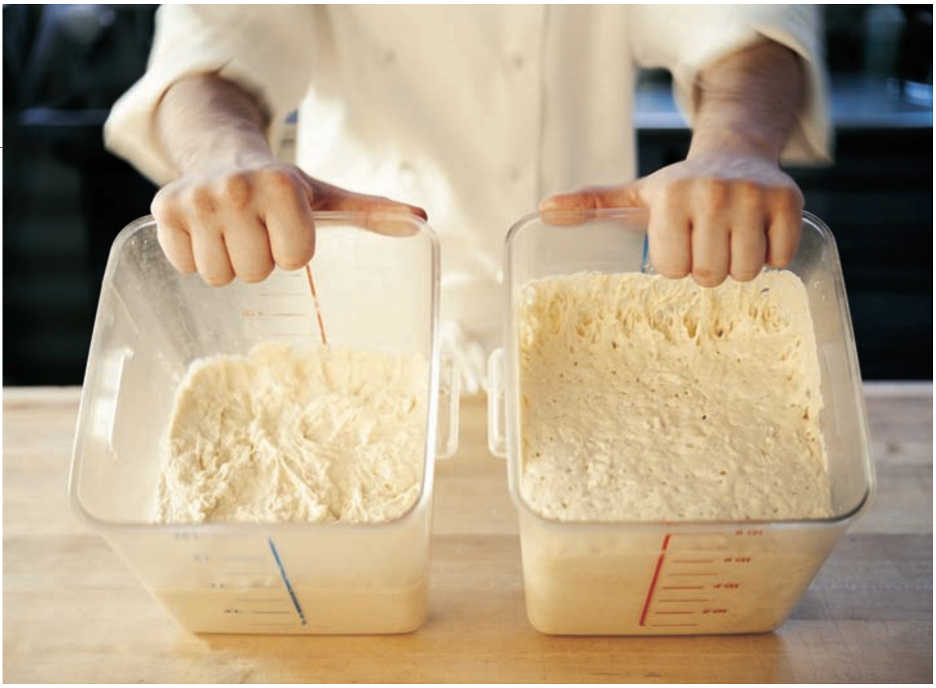
TOP LEFT: *Sponge just after mixing and after proofing*

TOP RIGHT: *Poolish just after mixing and after proofing*

BOTTOM LEFT: *Biga just after mixing and after proofing*



FROM LEFT TO RIGHT: *Sourdough starter, just after feeding and after proofing*

SOURDOUGH STARTERS

Sourdough starters add flavor to breads, and in some formulas that may be their primary function. But sourdough is a true leavener. Although it is time-consuming to prepare and maintain a sourdough starter to be used as a primary leavener, breads made with sourdough have a deep, complex flavor and a good texture. A sourdough is acidic enough to enhance the shelf life of breads and rolls. A strong, vigorous sourdough can be maintained indefinitely with proper feedings.

Each sourdough has its own characteristics, depending on the ingredients selected and the type of wild yeasts in any given environment. Both wheat and rye flours are used in sourdough starters. Wheat flours generate lactic acid; rye develops acetic acid. These acids influence the flavor of the finished bread. Organic flours are easiest to use for starters, since they are minimally processed and do not contain the additives found in conventional flours.

ESTABLISHING A STARTER

The initial stage of establishing a sourdough calls for mixing flour and water. The dough is then left to rest. As it rests, it attracts the ambient yeasts in the air. Grapes, potatoes, onions, and apples contain a high percentage of the natural yeasts desirable for creating a starter. Adding them to the flour and water mixture will speed the process of creating a starter. When the yeasts start to feed, grow, and reproduce in the mixture, they ferment the dough, making it bubbly and airy and giving it a tangy or sour aroma. The dough will expand to double its original volume, start to fall when the yeast activity peaks, and then begin to decline as the yeast consumes the food source.

Left unattended, the yeasts will die. To keep the starter alive, or to maintain or build up an established starter, it should be given additional feedings of flour and water. These feedings should be done on a fairly regular schedule, usually once a day. It is important that the ratio of flour to water used for feeding is the same one used to establish the sour. New starters benefit from at least three and up to five feedings prior to their first use.

REPLENISHING A STARTER

Once a starter is established, it should be replenished once daily, or more, until the desired amount is achieved. After it is built up, it should be replenished to maintain a par level. The starter can be replenished after it has risen and begins to fall. This is the signal that the culture has digested enough nutrients, in turn causing the collapse of the mixture. Replenishing three to five times is usually sufficient. The number of replenishings can vary as long as the temperature and flour-to-water ratio are correct.

When a balanced, vigorous culture is established, it will provide leavening and flavor to bread, and the presence of organic acids from the sourdough and the higher acidity of the bread will give it a better shelf life. Another benefit of a well-balanced and well-maintained culture is that it can be maintained indefinitely.

Sourdough starters that are held under refrigeration and not used frequently must be fed at least every 3 weeks if they are to remain active. To replenish a starter, use the following procedure:

1. Remove the starter from refrigeration and let it rest at 75°F/24°C for 12 to 14 hours.

2. Feed it with a mixture of flour and water; add as much of this mixture as necessary to produce the amount of starter required for your formula. Wheat starters should be fed with a mixture of flour and water that is at 66 percent hydration; for example, for every 1 lb/450 g of flour you add to the starter, add about 10½ oz/300 g of water.

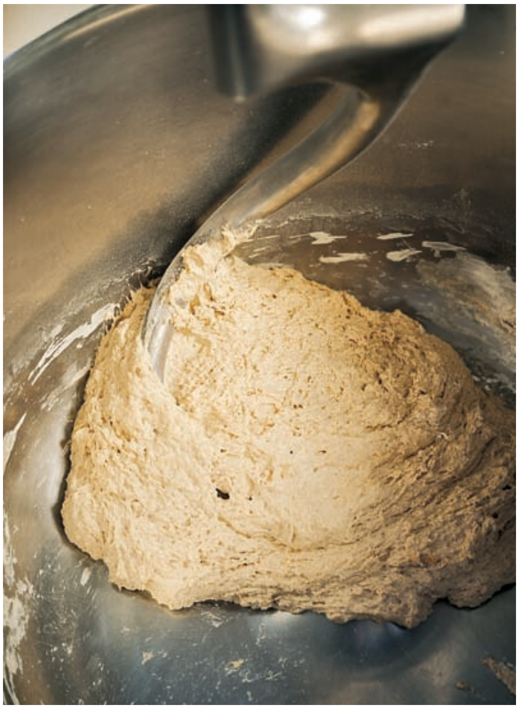
3. Feed the starter once more on the following day at the same hydration level and allow it to ferment for 24 hours at 75°F/24°C before using it in a bread formula.

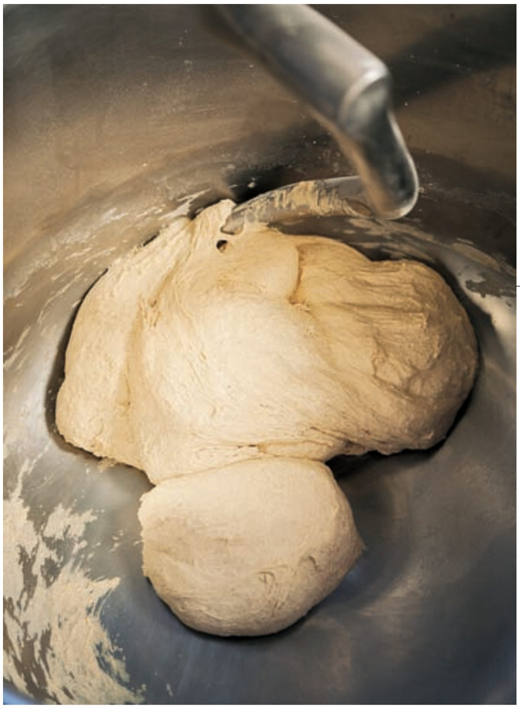
AUTOLYSE

Autolyse mixing may be used in any lean dough, and it is especially useful when making fiber-enriched dough. It means that the flour and water, and preferment are briefly combined, just enough for a rough mixture to form. Then the mixture is left to rest for a period of 10 to 30 minutes, allowing the flour to absorb enough water for gluten development to begin. The gluten relaxes, since mixing is not agitating it. The dough has rested sufficiently when it appears very smooth.

One advantage of the autolyse mixing is that mixing times are shortened, and shorter mixing times produce gluten that has greater extensibility. Another advantage is the development of a sweet aroma and flavor in the baked loaf.

The salt is added to the dough after the autolyse is complete. If added earlier, the salt would tighten the gluten. The dough is mixed until the gluten is properly developed and it is ready for bulk fermentation.





LEFT: *In the initial stage of an autolyse, the dough is very coarse.*

RIGHT: *A finished dough made with an autolyse step becomes very smooth.*

SOAKERS

WHEN ADDING A SIGNIFICANT quantity of smaller grains, or any amount of large, whole grains such as wheat berries, it is best to soak the grains first before incorporating them into the final dough. Whole grains tend to deprive the dough of moisture and will also damage the developing gluten network.

A soaker can be made using one of two methods: hot or cold. A hot soaker pregelatinizes the starch of the soaker's grain, which can improve the crust and decrease baking time of some whole-grain breads. Hot soakers are used primarily for whole grains such as rye, wheat, and spelt. Hot soakers work faster, but some chefs feel that there is some loss of flavor and quality. A hot soaker is produced by bringing the liquid to a boil and then incorporating the grains. Continue to cook the mixture for about 5 minutes over low heat. Set the soaker aside for at least 1 hour or overnight to allow it to cool before adding it to the dough.

A cold soaker must be prepared at least a day in advance. Cold soakers are used primarily for softer grains or seeds such as flax, sesame, or poppy. For a cold soaker, the grains and liquid are incorporated slightly, covered, and allowed to soak overnight.

Soakers are added to the dough after it has started to develop and are mixed into the dough on medium speed for a few minutes to develop gluten structure, just until they are fully and evenly incorporated.

Dough with a high percentage of rye should have all the grains added at the beginning of mixing.

TOP TO BOTTOM: *Bialys (page 212), Wheat Sourdough Bread (page 177), assorted Foccacia (page 172), Semolina Dough loaf (page 167), Conchas (page 216)*

MULTIGRAIN BREAD

MAKES 13 LB 10 OZ/6.18 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
GRAIN SOAKER			
Nine-grain cereal mix	15.6%	1 lb	450 g
Flax seeds	2.2%	2¼ oz	60 g
Sunflower seeds	3.9%	4 oz	110 g
Water, cold	26.6%	1 lb 11¼ oz	770 g
FINAL DOUGH			
Bread flour	45.1%	2 lb 14 oz	1.3 kg
Whole wheat flour	33.2%	2 lb 2 oz	960 g
Salt	2.3%	2½ oz	70 g
Pâte Fermentée (see page 154)	39.1%	2 lb 8 oz	1.13 kg
Malt syrup	0.6%	¾ oz	20 g
Water	44.1%	2 lb 13 oz	1.27 kg
Grain Soaker (above)	48.4%	3 lb 1½ oz	1.36 kg

1. For the soaker: Combine all of the ingredients and soak overnight.

2. For the final dough: Combine the flours, salt, pâte fermentée, malt syrup, and water and mix on low speed for 4 minutes, then on second speed for 1 minute. Add half the soaker and mix on low speed for 2 minutes, and then on second speed for 1 minute. Add the remaining soaker and mix on low speed for 2 minutes, and then on second speed for 2 minutes. The dough should be soft and smooth, with good gluten development.

3. Bulk ferment the dough for 30 minutes. Fold the dough and proof for 30 minutes. Fold the dough again and allow the dough to relax for 15 minutes.

4. Divide the dough into 1 lb 4 oz/570 g pieces. Preshape the dough into rounds (for preshaping instructions, see page 111) and cover. Allow the dough to relax for 10 minutes.

5. Shape the dough into oblongs and proof for 45 to 60 minutes.

6. Bake in a steam-injected 475°F/246°C hearth oven for 20 minutes. Vent the oven and bake the bread for an additional 12 minutes.

7. Remove the bread from the oven and allow to cool completely on racks.

LEAN DOUGH WITH PÂTE FERMENTÉE

MAKES 10 LB/4.54 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	100%	5 lb	2.27 kg
Instant dry yeast	0.63%	½ oz	14 g
Water	67.2%	3 lb 5¾ oz	1.52 kg
Pâte Fermentée (see page 154)	30%	1 lb 8 oz	680 g
Salt	2.2%	1¾ oz	50 g

1. Combine the flour and yeast. Add the water, pâte fermentée, and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 3 minutes. The dough should be slightly soft but very smooth, with sufficient gluten development. Mix to the improved stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 1 hour. Fold gently and ferment for another 2 hours.

3. Divide the dough into 1-lb/450-g pieces. Preshape the dough into large rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

4. Working with the dough seam side down, dust lightly with medium rye flour and use a rolling pin to create a split in the dough 2 in/5 cm wide and 2 in/5 cm deep. Turn the dough, split side down, into a lightly floured banneton or couche.

5. Proof, covered, until the dough springs back slowly to the touch but does not collapse, 1 to 1½ hours. Flip the dough split side up onto a peel.

6. Presteam a 460°F/238°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 25 to 30 minutes. Vent during the final 10 minutes. Cool completely on racks.

VARIATION

BOULE WITH A CROSS *After the boule has proofed, make two hollows the same size as the one in the split loaf to form a cross in the center of the loaf. The baking instructions are the same.*

LEAN DOUGH WITH POOLISH

MAKES 8 LB 8 OZ/3.86 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
POOLISH			
Bread flour	30%	1 lb 8 oz	680 g
Water (55°F/13°C)	30%	1 lb 8 oz	680 g
Instant dry yeast	0.04%	Pinch	Pinch
FINAL DOUGH			
Bread flour	70%	3 lb 8 oz	1.59 kg
Instant dry yeast	0.63%	½ oz	14 g
Poolish (above)	60%	3 lb	1.36 kg
Water	37.2%	1 lb 13¾ oz	840 g
Salt	2.2%	1¾ oz	50 g

1. To prepare the poolish, mix the flour, water, and yeast together by hand until well incorporated. Cover and ferment at 75°F/24°C for 14 to 16 hours, until it has risen and just begun to recede; it will be bubbly and frothy on top.

2. To prepare the final dough, combine the flour and yeast. Add the poolish, water, and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 2 minutes. The dough should be soft and smooth, with good gluten development.

3. Bulk ferment the dough until nearly doubled, about 40 minutes. Fold gently and ferment for another 30 minutes. Fold once more. Ferment for another 20 minutes.

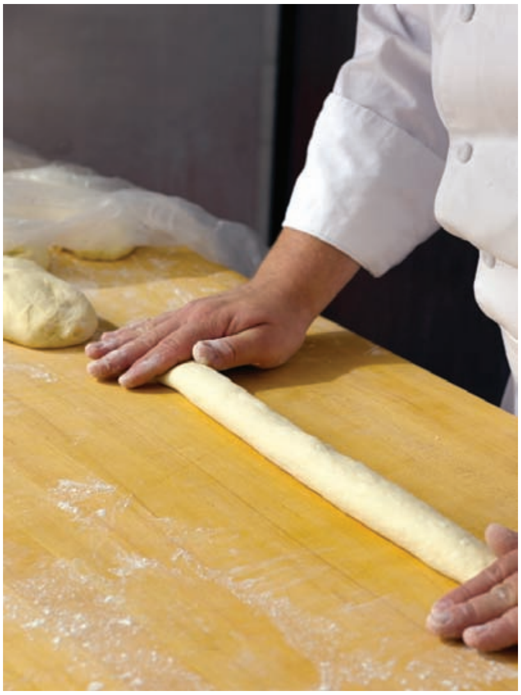
4. Divide the dough into 14-oz/400-g pieces. Preshape the dough into large oblongs (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

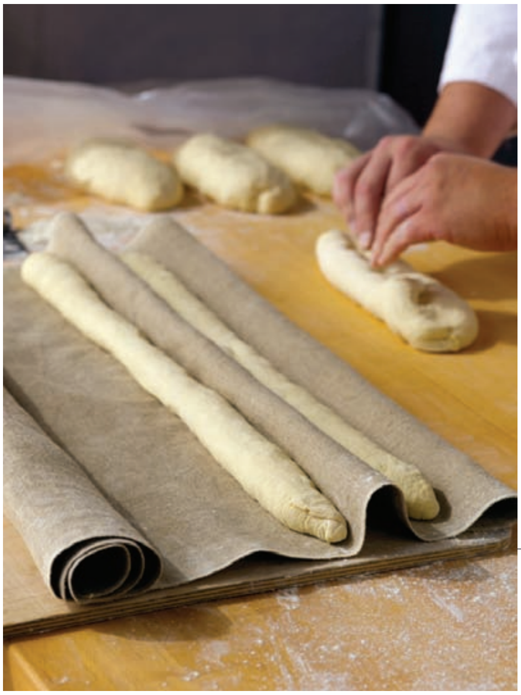
5. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up. Press lightly with your fingertips to stretch it into a rectangle 10 in/25 cm long, using as little flour as possible. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten the dough. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges together, keeping the seam straight. Roll the dough under your palms into a cylinder 20 in/51 cm long. Keep the pressure even and hold your hands flat and parallel to the work surface. Move your hands outward from the center of the cylinder toward the ends and slightly increase the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal them.

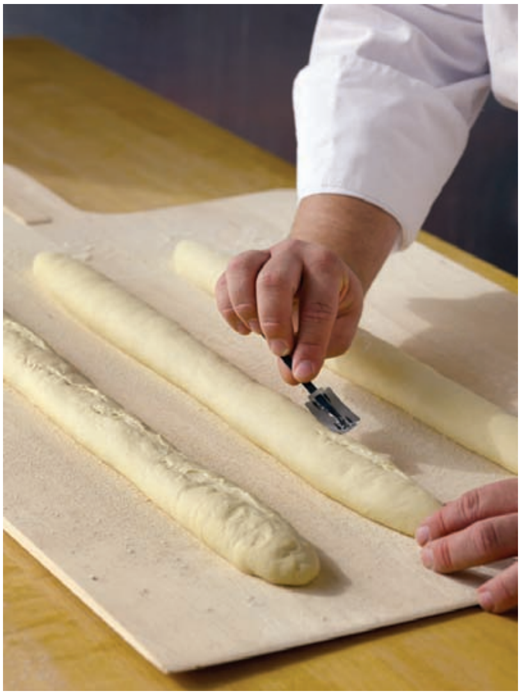
6. Place the loaf seam side down on a linen couche. Proof, covered, until the dough springs back very slowly to the touch, 30 to 45 minutes. (Baguettes should be slightly under proofed when loaded into the oven.)

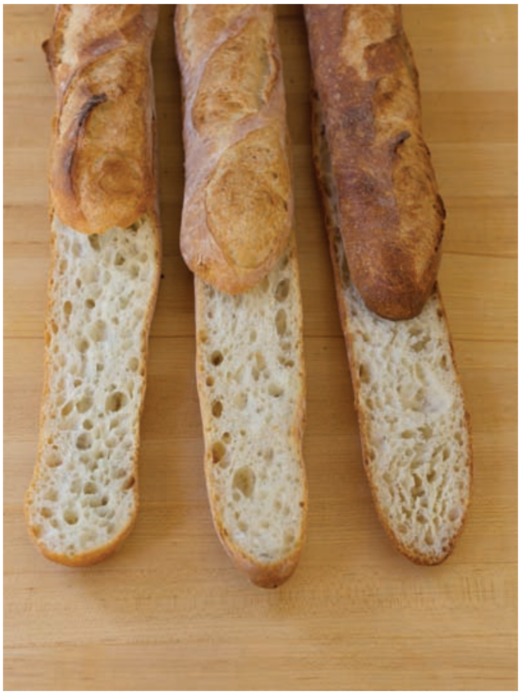
7. Score the dough with 5 or 7 diagonal lines down the center third of the loaf, overlapping each cut by ½ in/1 cm.

8. Presteam a 475°F/246°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown, the bread sounds hollow when thumped on the bottom, and you hear a crackle when you hold it next to your ear, 20 to 25 minutes. Vent during the final 10 minutes. Cool completely on racks.









TOP LEFT: *Roll the baguette, gently stretching to final length.*

TOP RIGHT: *Place finished baguettes in a couche for the final proof.*

BOTTOM LEFT: *Once the baguettes are fully proofed, transfer to the oven peel and score the tops of the finished baguettes.*

BOTTOM RIGHT: *Left to right: Made with levain, made with poolish, made with pâte fermentée*

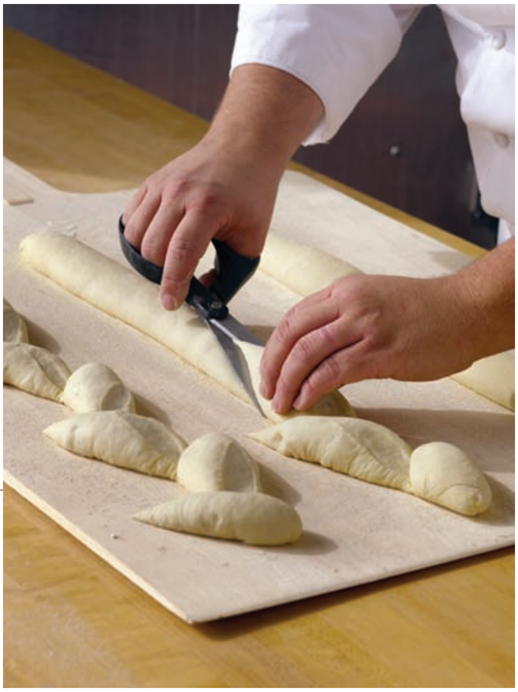
VARIATION

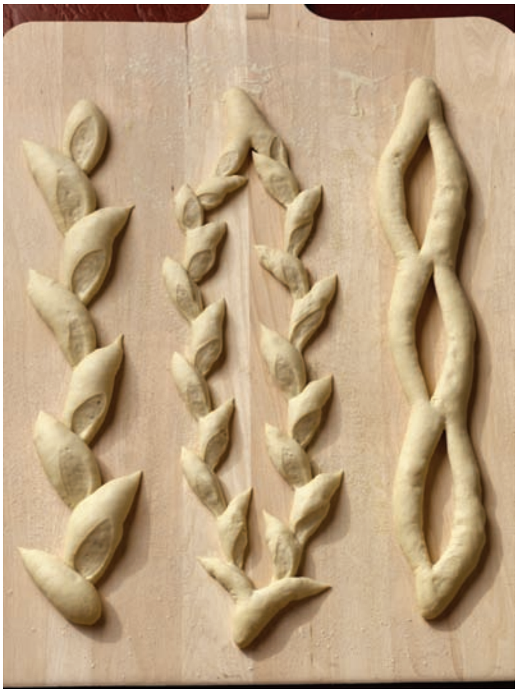
EPI

1. *Follow the main method through step 6.*

2. *Transfer the dough to a peel. Using scissors held at a 45-degree angle, starting 2½ in/6 cm from one end of the loaf, make diagonal cuts down the center of the loaf, placing each cut piece to the side as you cut, alternating sides to create the look of a stalk of wheat.*

3. *Presteam a 475°F/246°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown, the bread sounds hollow when thumped on the bottom, and you hear a crackle when you hold it next to your ear. Vent during the final 5 minutes. Cool completely on racks.*





TOP LEFT: *Make diagonal cuts down the center of the loaf, placing each cut piece to the side as you cut, alternating sides to create the look of a stalk of wheat.*

TOP RIGHT: *Three varieties of epi: Single, double, and fougasse*

BOTTOM: *These breads should be baked until crisp and deep golden brown.*

WHEAT DOUGH WITH POOLISH

MAKES 15 LB 9¼ OZ/7.07 KG DOUGH. DDT: 79°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
POOLISH			
Whole wheat flour	100%	3 lb	1.36 kg
Water (55°F/13°C)	100%	3 lb	1.36 kg
Instant dry yeast	0.08%	Pinch	Pinch
FINAL DOUGH			
Bread flour	33.3%	3 lb	1.36 kg
Whole wheat flour	33.3%	3 lb	1.36 kg
Instant dry yeast	0.35%	½ oz	14 g
Poolish (above)	66.6%	6 lb	2.72 kg
Water	37.5%	3 lb 6 oz	1.53 kg
Salt	2%	2¾ oz	80 g

1. To prepare the poolish, mix the flour, water, and yeast together by hand until well incorporated. Cover and ferment at 75°F/24°C until bubbly, frothy, and just starting to recede, 10 to 15 hours.

2. To prepare the final dough, combine the flours and yeast. Add the poolish, water, and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 4 minutes. The dough should be moist, but with strong gluten development. Mix to the improved stage of gluten development.

3. Bulk ferment the dough until nearly doubled, about 30 minutes. Fold gently. Ferment for another 30 minutes.

4. Divide the dough into pieces 1 lb 4 oz/570 g each. Preshape the dough into large rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

5. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten.

6. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough into a cylinder 8 in/20 cm long, moving your hands outward from the center slightly increasing the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal.

7. Proof, covered, in a couche until the dough springs back slowly to the touch but does not collapse, 45 minutes. Score the bâtards straight down the center.

8. Presteam a 460°F/238°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 30 to 35 minutes. Vent during the final 10 minutes. Cool completely on racks.

WALNUT FIG BREAD

MAKES 7 LB 8 OZ/3.4 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Walnuts, toasted and chopped	8.3%	10 oz	280 g
Figs, dried, coarsely chopped	8.3%	10 oz	280 g
Honey	3.3%	4 oz	110 g
Wheat Dough with Poolish (page 165)	80%	6 lb	2.72 kg

1. Combine the walnuts, figs, and honey. Fold the mixture into the dough halfway through bulk fermentation time.

2. Bulk ferment the dough until nearly doubled, about 30 minutes. Fold gently. Ferment for another 30 minutes and fold again. Ferment for another 15 minutes.

3. Divide the dough into 15-oz/430-g pieces. Preshape the dough into large oblongs (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

4. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten.

5. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough under your palms into a cylinder 8 in/20 cm long, moving your hands outward from the center of the cylinder toward the ends and slightly increasing the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal.

6. Proof, covered, in a couche until the dough springs back slowly to the touch but does not collapse, 1 hour 20 minutes.

7. Score the bâtards with two parallel diagonal lines.

8. Presteam a 450°F/232°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 35 to 40 minutes. Vent during the final 10 minutes. Cool completely on racks.

ADDING FLAVORINGS AND GARNISHES

FRESH HERBS, ROASTED GARLIC, ground or whole spices, grated cheeses, dried fruits, and nuts are some of the ingredients added to bread doughs for flavor or as garnish. Formulas calling for salty or acidic ingredients may require modification so that these ingredients do not interfere dramatically with yeast activity or the desired flavor of the bread. Finely ground or dry ingredients maybe added at the beginning of the mixing time. In other cases, it may be easier to work the garnish into the dough halfway through bulk fermentation. The dough can be put back in the mixer and the garnish mixed in on low speed just until evenly blended, or the garnish may be folded by hand into the dough.

Generally, the folding method is best for hard ingredients, such as nuts, that can damage the gluten strands, or for soft ingredients, such as olives, that you do not want to break.

Spread or flatten the dough on a lightly floured surface. Sprinkle the garnish ingredients evenly over the dough and fold it over gently. Continue to fold until the garnish ingredients are evenly distributed throughout the dough.

SEMOLINA DOUGH

MAKES 90 LB/40.82KG DOUGH (90 LOAVES). DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
BIGA			
Durum flour	16.7%	8 lb 10 oz	3.91 kg
Semolina flour	16.7%	8 lb 10 oz	3.91 kg
Water	18.3 %	9 lb 8 oz	4.31 kg
Instant yeast	0.01%	¼ tsp	1.30 g
FINAL DOUGH			
Durum flour	16.7%	8 lb 10 oz	3.91 kg
Semolina flour	16.7%	8 lb 10 oz	3.91 kg
Bread flour	33.3%	17 lb 4 oz	7.82 kg
Olive oil	4.2%	2 lb 2 oz	960 g
Water	48.9%	25 lb 4 oz	11.45 kg
Instant dry yeast	0.5%	4 oz	110 g
Biga (above)	51.7%	26 lb 11 oz	12.11 kg
Salt	2.2%	1 lb 2 oz	510 g
Sesame seeds, for garnish		As needed	As needed

1. To prepare the biga, combine the flours, water, and yeast and mix on low speed with the paddle attachment for 3 minutes, or until thoroughly combined. Transfer to a container, cover, and ferment at 75°F/24°C for 18 hours, until the biga has risen and begun to recede.

2. To prepare the final dough, combine the flours, olive oil, water, yeast, and biga and mix with the dough hook attachment on low speed for 3 minutes. Let the dough rest in the mixer for 15 minutes. Add the salt and mix on low speed for an additional 3 minutes. Mix to the improved stage of gluten development.

3. Bulk ferment the dough until nearly doubled, about 30 minutes. Fold gently and ferment for another 30 minutes.

4. Divide the dough into 1-lb/450-g pieces. Preshape the dough into large oblongs 8 in/20 cm long (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

5. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough under your palms into a cylinder 14 in/36 cm long, moving your hands outward from the center of the cylinder toward the ends and slightly increasing the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal.

6. Dip each oblong into sesame seeds and place seam side up in a couche.

7. Proof, covered, until the dough springs back slowly to the touch but does not collapse, 30 to 40 minutes. Score the loaves with an arc.

8. Presteam a 470°F/243°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 20 minutes. Vent during the final 8 minutes. Cool completely on racks.

LEAN DOUGH WITH BIGA

MAKES 8 LB 8 OZ/3.86 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
BIGA			
Bread flour	100%	1 lb 8 oz	680 g
Water (60°F/16°C)	55%	13¼ oz	380 g
Instant dry yeast	0.03%	Pinch	Pinch
FINAL DOUGH			
Bread flour	70%	3 lb 8 oz	1.59 kg
Instant dry yeast	0.63%	½ oz	14 g
Water	50.6%	2 lb 8½ oz	1.15 kg
Biga (above)	46.6%	2 lb 5¼ oz	1.06 kg
Salt	2.2%	1¾ oz	50 g

CLOCKWISE FROM TOP: *Semolina Dough (page 167), onion-topped Focaccia (page 172), Multigrain Bread (page 160), Walnut Fig Bread (page 166), Baguette (see page 162), Lean Dough with Biga (page 168)*

1. To prepare the biga, combine the flour, water, and yeast and mix on low speed with the dough hook attachment for 3 minutes, or until thoroughly combined. Transfer to a container, cover, and ferment at 75°F/24°C for 18 to 24 hours, until the biga has risen and begun to recede.

2. To prepare the final dough, combine the flour and yeast. Add the water, biga, and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 2 minutes. The dough should still be slightly soft but very smooth, with sufficient gluten development. Mix to the improved stage of gluten development.

3. Bulk ferment the dough until nearly doubled, about 50 minutes. Fold gently and ferment for another 50 minutes.

4. Divide the dough into 14-oz/400-g pieces. Preshape the dough into large oblongs (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

5. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten.

6. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough under your palms into a cylinder 8 in/20 cm long, moving your hands outward from the center of the cylinder toward the ends and slightly increasing the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal.

7. Proof, covered, in a couche until the dough springs back slowly to the touch but does not collapse, 30 to 40 minutes.

8. Score the baguettes 5 to 7 times down the center.

9. Presteam a 460°F/238°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 20 to 25 minutes. Vent during the final 6 to 8 minutes. Cool completely on racks.

CIABATTA

MAKES 9 LB/4.08 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
BIGA			
Bread flour	100%	1 lb 10 oz	740 g
Water (60°F/16°C)	50%	13 oz	380 g
Instant dry yeast	0.3%	¼ oz	7 g
FINAL DOUGH			
Bread flour	67.1%	3 lb 5¾ oz	1.52 kg
Water	56.6%	2 lb 13½ oz	1.29 kg
Biga (above)	50%	2 lb 8 oz	1.13 kg
Salt	2.3%	2 oz	60 g

1. To prepare the biga, combine the flour, water, and yeast and mix with the dough hook attachment on low speed for 3 minutes, or until thoroughly combined. Transfer to a container, cover, and ferment at 75°F/24°C for 18 to 24 hours, until the biga has risen and begun to recede; it should still be bubbly and airy.

2. To prepare the final dough, combine the flour and yeast. Add the water, biga, and salt in the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 1 minute. The dough should be blended but not too elastic (ciabatta dough is a wet, slack dough).

3. Bulk ferment the dough in a tub or bowl until nearly doubled, about 30 minutes. Fold gently in half four times (the dough should feel like jelly). Ferment for another 30 minutes. Fold in half again, gently, two times. Ferment for another 15 minutes.

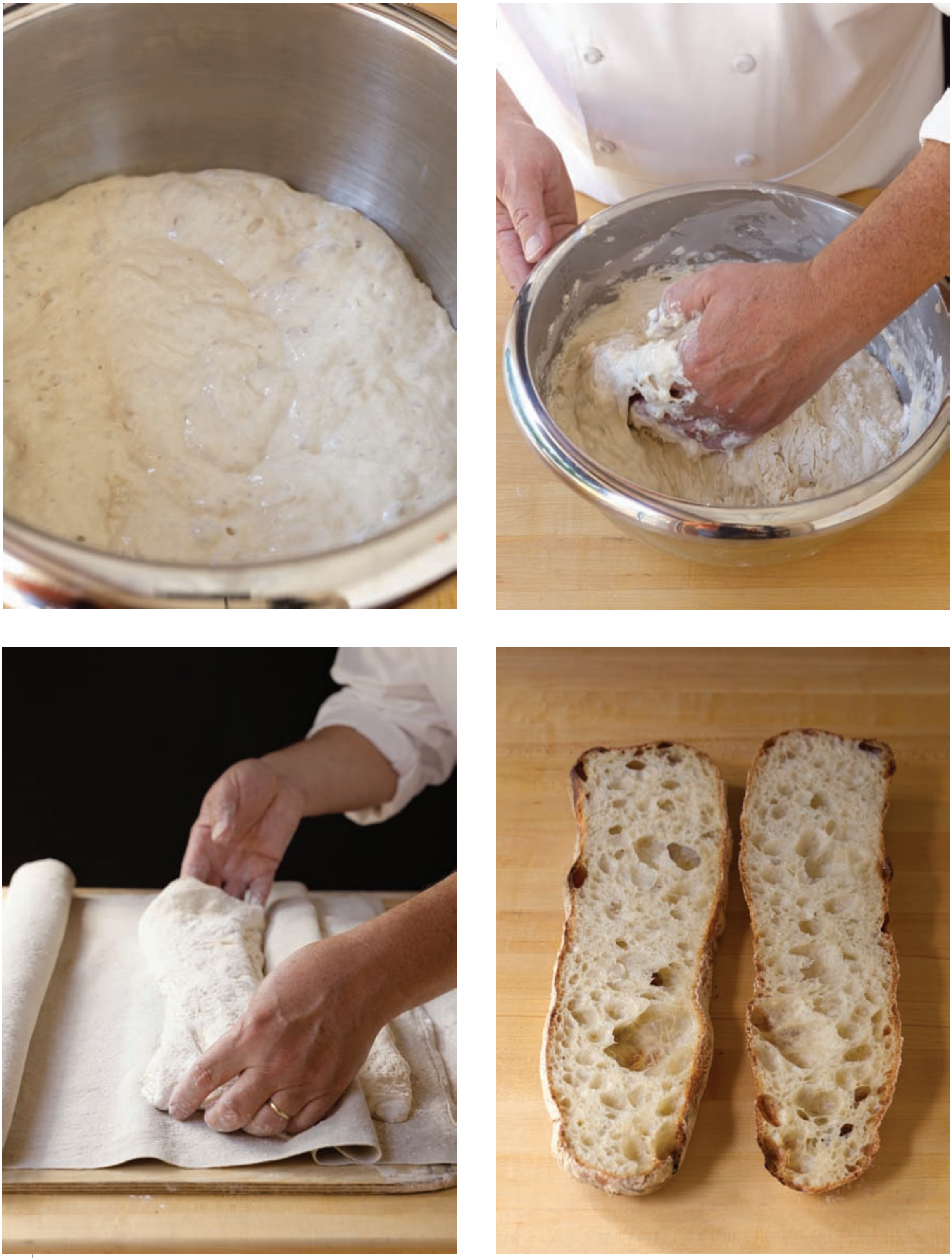
4. Place the dough on the table and dust the top of it with flour. (Reminder: Keep the work surface well-floured when working with ciabatta dough.) Using the palms of your hands, gently stretch the dough into a rectangle 16 in/41 cm long and 1½ in/4 cm thick. Be careful to avoid tearing or puncturing the dough with your fingertips. Using a floured bench scraper, divide the dough into two rectangles 4½ by 10 in/11 by 25 cm. (Because the dough is loose and will be spreading as you work, measurements are approximate.)

5. Flip the dough over onto floured linen couches. Gently stretch each piece into a rough rectangle.

6. Proof, covered, until the dough springs back slowly to the touch but does not collapse, 30 to 45 minutes.

7. Lightly flour the top of the dough. Flip each ciabatta over onto a small floured board, and then slide each one onto a floured peel.

8. Presteam a 460°F/238°C deck oven. Load the ciabatta into the oven and steam for 3 seconds. Bake until the crust is golden brown and the ciabatta sounds hollow when thumped on the bottom, 25 to 30 minutes. Vent during the final 10 minutes. Cool completely on racks.



TOP LEFT: *The consistency of the biga before mixing*

TOP RIGHT: *Mixing by hand results in the ideal amount of gluten development and the best final texture.*

BOTTOM LEFT: *Stretch the dough slightly to place it onto a couche.*

BOTTOM RIGHT: *Crumb structure of a finished ciabatta loaf.*

FOCACCIA

MAKES 11 LB 6¼ OZ/5.17 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
BIGA			
Bread flour	100%	1 lb 8 oz	680 g
Water (60°F/16°C)	55.2%	13¼ oz	380 g
Instant dry yeast	0.03%	Pinch	Pinch
FINAL DOUGH			
Bread flour	76.9%	5 lb	2.27 kg
Instant dry yeast	0.5%	½ oz	14 g
Water	53.8 %	3 lb 8 oz	1.69 kg
Biga (above)	35.8%	2 lb 5¼ oz	1.06 kg
Olive oil	6.25%	6½ oz	180 g
Salt	1.9%	2 oz	60 g
Olive oil		As needed	As needed
GARNISHES (OPTIONAL)			
Fresh herbs		As needed	As needed
Garlic, sliced and sautéed		As needed	As needed
Roasted tomato slices		As needed	As needed
Onions, sliced and sautéed		As needed	As needed
Coarse salt		As needed	As needed

1. To prepare the biga, combine the flour, water, and yeast and mix with the dough hook attachment on low speed for 3 minutes, or until thoroughly combined. Transfer to a container, cover, and ferment at 75°F/24°C for about 8 hours, until the biga has risen and begun to recede; it should still be slightly bubbly and airy.

2. To prepare the final dough, combine the flour and yeast. Add the water, biga, olive oil, and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes. The dough should be very loose.

3. Bulk ferment the dough until nearly doubled, about 45 minutes. Fold gently. Ferment for another 45 minutes.

4. Divide the dough into 1-lb/450-g pieces. Preshape the dough lightly into large rounds (for preshaping instructions, see page 111). (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

5. Brush the dough lightly with olive oil. Using only your fingertips, gently press the dough down, and then stretch it into a circle 10 in/25 cm in diameter, keeping the thickness of the dough even. Place on parchment-lined sheet pans.

6. Proof, covered, until the dough springs back slowly to the touch but does not collapse, 30 to 45 minutes.

7. Brush the dough lightly with olive oil again. Gently stipple the dough, creating random indentations with your fingertips. Scatter with any optional toppings, if desired.

8. Presteam a 460°F/238°C deck oven. Load the focaccia into the oven and steam for 3 seconds. Bake until the crust is golden brown and the focaccia sounds hollow when thumped on the bottom, 25 to 30 minutes. Vent during the final 10 minutes. Brush lightly with olive oil and sprinkle with salt if desired. Cool completely on racks. Dimple the proofed focaccia with your fingertips.

Dimple the proofed focaccia with your fingertips.

ROSEMARY BREAD

MAKES 10 LB 3¼ OZ/4.63 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
BIGA			
Bread flour	100%	1 lb	450 g
Water (60°F/16°C)	55%	8½ oz	240 g
Instant dry yeast	0.08%	Pinch	Pinch
FINAL DOUGH			
Bread flour	83.3%	5 lb	2.27 kg
Instant dry yeast	0.25%	¼ oz	7 g
Water	50%	3 lb	1.36 kg
Biga (above)	25%	1 lb 8 oz	680 g
Milk	6.75%	6½ oz	180 g
Olive oil	2.6%	2½ oz	70 g
Salt	1.6%	1½ oz	40 g
Rosemary, coarsely chopped	0.5%	½ oz	14 g

1. To prepare the biga, combine the flour, water, and yeast and mix on low speed with the dough hook attachment for 3 minutes, or until thoroughly combined. Transfer to a container, cover, and ferment at 75°F/24°C for 18 to 24 hours, until the biga has risen and begun to recede; it should still be bubbly and airy.

2. To prepare the final dough, combine the flour and yeast. Add the water, biga, milk, olive oil, salt, and rosemary in the mixer, then add the flour and yeast. Mix on low speed with the dough hook attachment for 4 minutes and on medium speed for 3 minutes. The dough should still be slightly soft, with good gluten development. Mix to the improved stage of gluten development.

3. Bulk ferment the dough until nearly doubled, about 30 minutes. Fold gently, and ferment for another 30 minutes.

4. Divide the dough into pieces 1 lb 4 oz/570 g each. Preshape the dough into large oblongs (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

5. Using the backs of your hands, stretch the dough gently and evenly into a rough rectangle 6 by 8 in/15 by 20 cm. It is very important to keep the thickness of the dough even. Place on parchment-lined sheet pans. Proof, covered, until the dough springs back slowly to the touch but does not collapse, 30 to 40 minutes.

6. Starting at one corner of the dough, score the dough three times, scoring from the same corner to each of the three other corners. Then score the dough two more times in between the first three slashes, radiating out from the same corner to the corresponding side.

7. Presteam a 450°F/232°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 25 to 30 minutes. Vent during the final 10 minutes. Cool completely on racks.

WHEAT SOURDOUGH STARTER

MAKES 1 LB 8 OZ/680 G STARTER

INGREDIENT	BAKER'S %	U.S.	METRIC
INITIAL SOUR (DAYS 1 AND 2)			
Water (85°F/29°C)	100%	4 oz	110 g
Organic wheat or durum flour	100%	4 oz	110 g
FIRST FEEDING (DAY 3)			
Initial sour (above)	100%	4 oz	110 g
Water (85°F/29°C)	100%	4 oz	110 g
Organic wheat or durum flour	100%	4 oz	110 g
SECOND FEEDING (DAY 4)			
Sour after first feeding (above)	200%	8 oz	230 g
Water (85°F/29°C)	100%	4 oz	120 g
Organic wheat or durum flour	100%	4 oz	110 g
THIRD FEEDING (DAY 5)			
Sour after second feeding (above)	33%	4 oz	110 g
Water (60°F/16°C)	66%	8 oz	230 g
Organic wheat flour	100%	12 oz	340 g

1. Mix the ingredients for the initial sour. Cover and let rest at 75°F/24°C for 24 hours. The flour and water tend to separate overnight; recombine on the second day. Let rest for another 24 hours at 75°F/24°C.

2. On the third day, combine 4 oz/110 g of the initial sour mixture with the water for the first feeding and blend to fully combine; discard excess sour. Blend in the flour for the first feeding. Cover and let rest at 75°F/24°C for 24 hours.

3. On the fourth day, combine 8 oz/230 g of the sour mixture from step 2 with the water for the second feeding and blend to fully combine; discard excess sour. Blend in the flour for the second feeding. Cover and let rest at 75°F/24°C for 24 hours.

4. On the final day, combine 4 oz/110 g of the sour from step 3 with the water for the third feeding and blend to fully combine; discard excess sour. Blend in the flour for the third feeding. Let the starter rest covered at 75°F/24°C for 24 hours before using in a bread formula. Repeat step 4 two or three more times before using.

RYE SOURDOUGH STARTER

MAKES 1 LB 3½ OZ/550 G STARTER

INGREDIENT	BAKER'S %	U.S.	METRIC
INITIAL SOUR (DAYS 1 AND 2)			
Water (80°F/27°C)	100%	4 oz	110 g
Organic rye flour	100%	4 oz	110 g
FIRST FEEDING (DAY 3)			
Initial sour (above)	100%	4 oz	110 g
Water (80°F/27°C)	100%	4 oz	110 g
Organic rye flour	100%	4 oz	110 g
SECOND FEEDING (DAY 4)			
Sour after first feeding (above)	200%	8 oz	230 g
Water (80°F/27°C)	100%	4 oz	110 g
Organic Rye flour	100%	4 oz	110 g
THIRD FEEDING (DAY 5)			
Sour after second feeding (above)	33%	4 oz	110 g
Water (60°F/16°C)	66%	8 oz	230 g
Organic rye flour	100%	8 oz	230 g
Salt		¼ oz	7 g

1. Mix the ingredients for the initial sour. Cover and let rest at 75°F/24°C for 24 hours. The flour and water tend to separate overnight; recombine on the second day. Let rest for another 24 chours at 75°F/24°C.

2. On the third day, combine 4 oz/110 g of the initial sour mixture with the water for the first feeding and blend to fully combine; discard excess sour. Blend in the flour for the first feeding. Cover and let rest at 75°F/24°C for 24 hours.

3. On the fourth day, combine 8 oz/230 g of the sour mixture from step 2 with the water for the second feeding and blend to fully combine; discard excess sour. Blend in the flour for the second feeding. Cover and let rest at 75°F/24°C for 24 hours.

4. On the final day, combine 4 oz/110 g of the sour from step 3 with the water for the third feeding and blend to fully combine; discard excess sour. Blend in the flour for the third feeding. Let the starter rest covered at 75°F/24°C for 24 hours before using in a bread formula. Repeat step 4 until rye sour shows the correct acidity and wild yeast bacteria.

WHEAT SOURDOUGH BREAD

MAKES 16 LB 5¼ OZ/7.41 KG DOUGH. DDT: 76°F/24°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	50%	3 lb 12 oz	1.7 kg
Whole wheat flour	50%	3 lb 12 oz	1.7 kg
Water	75%	5 lb 10 oz	2.55 kg
Wheat Sourdough Starter (page 175)	40%	3 lb	1.36 kg
Salt	2.7%	3¼ oz	90 g

1. Combine the flours, water, and sourdough starter and mix with the dough hook attachment on low speed. Let the dough rest for 15 minutes. Add the salt and mix 1 minute on low speed and 2 minutes on medium speed. The dough should be slightly soft but elastic. Mix to the improved stage of gluten development.

2. Bulk ferment the dough until nearly doubled in volume, about 1 hour. Fold gently and ferment for another hour. Fold again. Ferment for another 20 minutes.

3. Divide the dough into pieces 1 lb 8 oz/680 g each. Preshape the dough into large oblongs (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

4. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten.

5. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough under your palms into a cylinder 8 in/20 cm long, moving your hands outward from the center of the cylinder toward the ends and slightly increasing the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal.

6. Proof, covered, until the dough springs back slowly to the touch but does not collapse, 45 minutes.

7. Score the bâtards with an arc.

8. Presteam a 470°F/243°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 35 to 40 minutes. Vent during the final 15 minutes. Cool completely on racks.

WHITE WHEAT SOURDOUGH BREAD

MAKES 15 LB 4 OZ/6.92 KG DOUGH. DDT: 79°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	92.8%	6 lb 10½ oz	3.02 kg
Water	68%	4 lb 14 oz	2.21 kg
Wheat Sourdough Starter (page 175)	41.8%	3 lb	1.36 kg
Salt	2.8%	3¼ oz	90 g

1. Combine the flour, water, and sourdough starter and mix with the dough hook attachment on low speed for 4 minutes. Let the dough rest for 15 minutes. Add the salt and mix 1 minute on low and 2 minutes on medium speed. The dough should be slightly soft but elastic. Mix to the improved stage of gluten development.

2. Bulk ferment the dough until nearly doubled in volume, about 1 hour. Fold gently and ferment for another hour. Fold again. Ferment for another 20 minutes.

3. Divide the dough into pieces 1 lb 8 oz/680 g each. Preshape the dough into large oblongs (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

4. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten.

5. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough under your palms into a cylinder 8 in/20 cm long, moving your hands outward from the center of the cylinder toward the ends and slightly increasing the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal.

6. Proof, covered, until the dough springs back slowly to the touch but does not collapse, 45 minutes.

7. Score the bâtards with an arc.

8. Presteam a 470°F/243°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 35 to 40 minutes. Vent during the final 15 minutes. Cool completely on racks.

APPLE AND WALNUT SOURDOUGH BREAD

MAKES 16 LB 7¾ OZ/7.48 KG DOUGH. DDT: 77°F/25°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	83.1%	6 lb 5 oz	2.86 kg
Whole wheat flour	16.9%	14 oz	400 g
Water	84.3%	4 lb 6 oz	1.99 kg
Wheat Sourdough Starter (page 175)	49.4%	2 lb 9 oz	1.16 kg
Salt	3.3%	2¾ oz	78 g
Granny Smith apples, coarsely chopped	14.5%	1 lb 1 oz	480 g
Walnuts, lightly toasted and coarsely chopped	14.5%	1 lb 1 oz	480 g
Ground cinnamon	1.2%	1 oz	30 g

1. Combine the flours, water, and sourdough and mix with the dough hook attachment on low speed for 4 minutes. Let the dough rest for 15 minutes. Add the salt and mix for 1 minute on low speed and 3 minutes on medium speed. The dough should be slightly soft but elastic.

2. Bulk ferment the dough until nearly doubled, about 1 hour. Fold gently and ferment for another hour. Fold again. Ferment for another 20 minutes. Toss together the apples, walnuts, and cinnamon and fold into the dough (see "Adding Flavorings and Garnishes," page 166).

3. Divide the dough into pieces 1 lb 4 oz/570 g each. Preshape the dough into large oblongs (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

4. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten.

5. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough under your palms into a cylinder 8 in/20 cm long, moving your hands outward from the center of the cylinder toward the ends and slightly increasing the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal.

6. Proof, covered, in a couche until the dough springs back slowly to the touch but does not collapse, 30 minutes.

7. Score the bâtards with a slash down the center.

8. Presteam a 470°F/243°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 35 minutes. Vent during the final 10 minutes. Cool completely on racks.

SOURDOUGH BREAD WITH RYE FLOUR

MAKES 15 LB 9¾ OZ/7.08 KG DOUGH. DDT: 76°F/24°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	60%	4 lb 8 oz	2.04 kg
Medium rye flour	40%	3 lb	1.36 kg
Water	65%	4 lb 14 oz	2.21 kg
Rye Sourdough Starter (page 176)	40%	3 lb	1.36 kg
Salt	2.7%	3¼ oz	90 g

1. Combine the flours, water, and sourdough and mix with the dough hook attachment on low speed for 3 minutes. Let the dough rest for 15 minutes. Add the salt and mix on medium speed for 3 minutes, or until the dough is slightly soft but elastic.

2. Bulk ferment the dough until nearly doubled, about 1 hour. Fold gently and ferment for another hour. Fold again. Ferment for another 20 minutes.

3. Divide the dough into pieces 1 lb 8 oz/680 g each. Preshape the dough into large oblongs (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

4. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten.

5. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough under your palms into a cylinder 8 in/20 cm long, moving your hands outward from the center of the cylinder toward the ends and slightly increasing the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal.

6. Proof, covered, in a couche until the dough springs back slowly to the touch but does not collapse, 30 minutes.

7. Score the bâtards with an arc in the center.

8. Presteam a 475°F/246°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 25 to 30 minutes. Vent during the final 10 minutes. Cool completely on racks.

MULTIGRAIN SOURDOUGH

MAKES 12 LB 5 OZ/5.58 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
SOAKER			
Nine-grain cereal mix	30.33%	1 lb	450 g
Sunflower seed	12.32%	6½ oz	180 g
Oats	12.32%	6½ oz	180 g
Water	60.66%	2 lb	900 g
FINAL DOUGH			
Bread flour	100%	3 lb 5 oz	1.5 kg
Instant dry yeast	1.23%	¼ oz	7 g
Water	45.5%	1 lb 8 oz	680 g
Pâte Fermentée (see page 154)	75.83%	2 lb 8 oz	1.13 kg
Wheat Sourdough Starter (page 175)	30.33%	1 lb	450 g
Molasses, unsulfured	2.37%	1¼ oz	40 g
Soaker (above)	115%	3 lb 13 oz	1.73 kg
Salt	2.84%	1½ oz	40 g

1. To prepare the soaker, combine the cereal mix, sunflower seeds, and oats with the water in a plastic tub and cover. Soak at room temperature until the soaker has absorbed the water and is slightly dry, 8 to 12 hours.

2. To prepare the final dough, combine the flour and yeast. Add the water, pate fermentée, sourdough, molasses, soaker, and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes. Let the dough rest for 15 minutes. Mix on medium speed for 3 minutes, or until the dough is slightly stiff. Mix to the improved stage of gluten development.

3. Bulk ferment the dough until nearly doubled, about 30 minutes. Fold gently and ferment for another 30 minutes. Fold again. Ferment for another 30 minutes.

4. Divide the dough into 1-lb/450-g pieces. Preshape the dough into large oblongs (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes.

5. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten.

6. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough under your palms into a cylinder 8 in/20 cm long, moving your hands outward from the center of the cylinder toward the ends, until both ends have an even, gentle taper. Increase the pressure at the ends of the loaf to seal.

7. Proof, covered, in a couche until the dough springs back slowly to the touch but does not collapse, 45 minutes.

8. Score the bâtards with three diagonal lines.

9. Presteam a 470°F/243°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 25 to 30 minutes. Vent during the final 10 minutes. Cool completely on racks.

CHOCOLATE CHERRY SOURDOUGH

MAKES 19 LB 6½ OZ/8.8 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Espresso beans, ground	5.3%	4¼ oz	120 g
Water	81.25%	4 lb 1 oz	1.84 kg
Wheat Sourdough Starter (page 175)	63.2%	3 lb 2½ oz	1.43 kg
Pâte Fermentée (see page 154)	40%	2 lb	900 g
Bread flour	100%	5 lb	2.27 kg
Cocoa powder	10.6%	8½ oz	240 g
Instant dry yeast	0.95%	¾ oz	20 g
Salt	3.2%	2½ oz	70 g
Chocolate chunks	41.9%	2 lb 1½ oz	950 g
Dried cherries	41.9%	2 lb 1½ oz	950 g

1. Line a fine-mesh strainer with cheese cloth and place the ground espresso in it. Pour 1 lb 10½ oz/750 g of the water, boiling, over the coffee. Cool to room temperature.

2. Combine the cooled espresso, the remaining water, the sourdough, and pate fermentée and mix with the dough hook attachment on low speed just until blended, about 1 minute. Add the flour, cocoa powder, yeast, and salt and mix on low speed for 4 minutes, then on medium speed for 4 minutes. Add the chocolate chunks and dried cherries and mix on low speed until well combined, about 1 minute. The dough should be slightly loose. Mix to the improved stage of gluten development.

3. Bulk ferment the dough until nearly doubled, about 45 minutes. Fold gently. Let the dough ferment for another 45 minutes.

4. Divide the dough into pieces 1 lb 8 oz/680 g each.

5. To shape as a boule: Cup both hands around the dough. Using your thumbs, push the dough away from you in an arc to the right, keeping a small piece of dough between the table and the edges of your palms. Using the edges of your palms as a guide, pull the dough toward you in an arc to the left. There should still be a small piece of dough that is squeezed between the table and the edges of your palms. Repeat this circular motion two or three more times, applying gentle pressure while rounding the dough, to create a tight, smooth outer skin. Place the boule seam side up in a round basket or seam side down on a board dusted with cornmeal.

6. Proof until the dough springs back slowly to the touch, 45 minutes. Flip the dough seam side down onto a peel. Score the boule with three parallel horizontal lines.

7. Presteam in a 425°F/218°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 25 to 30 minutes. Vent during the final 5 minutes. Cool completely on racks.

DURUM SOURDOUGH BREAD

MAKES 22 LB ½ OZ/9.99 KG DOUGH. DDT: 75°F/24°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Durum flour	50%	5 lb	2.27 kg
Bread flour	50%	5 lb	2.27 kg
Instant dry yeast	0.32%	½ oz	14 g
Water	82.5%	8 lb 4 oz	3.74 kg
Wheat Sourdough Starter (page 175)	35%	3 lb 8 oz	1.59 kg
Salt	2.5%	4 oz	110 g

1. Combine the flours and yeast. Add the water and sourdough to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 4 minutes. Allow the dough to rest for 15 minutes. Add the salt and mix on low speed with the dough hook attachment for 4 minutes. The dough should be fairly loose.

2. Bulk ferment the dough until nearly doubled, about 2 hours, folding the dough gently every 30 minutes, for a total of three folds.

3. Divide the dough into pieces 2 lb 6 oz/1.07 kg each. Preshape the dough into large rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

4. To shape as a boule: Cup both hands around the dough. Using your thumbs, push the dough away from you in an arc to the right, keeping a small piece of dough between the table and the edges of your palms. Using the edges of your palms as a guide, pull the dough toward you in an arc to the left. There should still be a small piece of dough that is squeezed between the table and the edges of your palms. Repeat this circular motion two or three more times, applying gentle pressure while rounding the dough, to create a tight, smooth outer skin. Place the boule seam side up in a round basket or seam side down on a board dusted with cornmeal.

5. Proof, covered, until the dough springs back slowly to the touch, 1 to 1½ hours. Flip the dough seam side down onto a peel. Score the boule with an arc.

6. Presteam in a 450°F/232°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 40 to 50 minutes. Vent during the final 15 minutes. Cool completely on racks.

BUTTERMILK SOURDOUGH

MAKES 23 LB 14¼ OZ/10.8 KG DOUGH. DDT: 76°F/24°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	93.3%	10 lb 5¾ oz	4.7 kg
Whole wheat flour	6.7%	12 oz	340 g
Malt syrup	0.5%	1 oz	30 g
Wheat Sourdough Starter (page 175)	39.3%	4 lb 6½ oz	2 kg
Buttermilk	44.2%	4 lb 14½ oz	2.2 kg
Milk	11.0%	1 lb 3½ oz	550 g
Water	17.2%	1 lb 14 oz	860 g
Salt	2.8%	5 oz	140 g

1. Combine the bread flour, whole wheat flour, malt syrup, wheat sourdough starter, buttermilk, milk, and water in the bowl of a mixer. Mix on low speed until homogeneous, about 3 minutes. Rest the dough in the mixer for 15 to 20 minutes.

2. Add the salt and mix on low speed until the dough reaches the intense stage of gluten development, about 5 minutes.

3. Remove the dough from the mixer and bulk ferment for 2 hours. Fold once halfway through fermentation. Fold the dough a final time and ferment for an additional 15 minutes.

4. Divide the dough into 1 lb 8 oz/680 g pieces and pre-shape into rounds. Bench rest for 10 to 15 minutes.

5. Shape the dough into boules and place seam-side up in lightly floured bannetons.

6. Proof the dough at room temperature for about an hour, or as needed, depending on the environment. Place in the refrigerator to retard overnight.

7. Remove the dough from the refrigerator one hour before baking.

8. Preheat a hearth oven to 475°F/246°C. Score the dough and load it into the oven. Immediately lower the temperature to 465°F/241°C. Bake for 18 minutes. Open the vent and bake until golden brown, an additional 15 minutes.

9. Place the finished bread on a rack to cool.

MULTIGRAIN RYE SOURDOUGH

MAKES 15 LB/6.8 KG DOUGH. DDT: 79°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
SOAKER			
Nine-grain cereal mix	21.5%	1 lb 1¾ oz	500 g
Flax seed	13.8%	11¼ oz	320 g
Sunflower seeds	7.8%	6½ oz	180 g
Water (90°F/32°C)	56.9%	2 lb 14½ oz	1.32 kg
FINAL DOUGH			
Bread flour	61.6%	3 lb 2½ oz	1.43 kg
Medium rye flour	38.4%	1 lb 15½ oz	890 g
Instant dry yeast	1.2%	1 oz	28 g
Rye Sourdough Starter (page 176)	42.5%	2 lb 3 oz	990 g
Water	36.9%	1 lb 14¼ oz	860 g
Soaker (above)	106%	5 lb 7 oz	2.47 kg
Salt	3.4%	2¾ oz	80 g

1. To prepare the soaker, combine the cereal mix, flax seed, and sunflower seeds with the water in a plastic tub. Soak at 75°F/24°C until the soaker has absorbed the water and is slightly dry, 8 to 12 hours.

2. To prepare the final dough, combine the flours and yeast. Add the sourdough, water, soaker, and salt to the mixer, then add the flours and yeast. Mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 3 minutes. Mix to the improved stage of gluten development.

3. Bulk ferment the dough until nearly doubled, about 30 minutes.

4. Divide the dough into pieces 1 lb 8 oz/680 g each. Preshape the dough into large oblongs (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 5 minutes.

5. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten.

6. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough under your palms into a cylinder 8 in/20 cm long, moving your hands outward from the center of the cylinder toward the ends and slightly increasing the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal.

7. Proof, covered, in a couche until the dough springs back slowly to the touch but does not collapse, 35 minutes.

8. Score the bâtards straight down the center.

9. Presteam in a 470°F/243°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 35 to 40 minutes. Vent during the final 10 minutes. Cool completely on racks.

RUSTIC RYE SOURDOUGH

MAKES 12 LB 4 OZ/5.56 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Medium rye flour	56.25%	2 lb 13 oz	1.28kg
Bread flour	43.75%	2 lb 3 oz	990 g
Instant dry yeast	0.63%	½ oz	14 g
Water	75%	3 lb 12 oz	1.7 kg
Rye Sourdough Starter (page 176)	41.9%	2 lb 1½ oz	950 g
Salt	2.5%	2 oz	60 g
Sunflower seeds, lightly toasted	25%	1 lb 4 oz	570 g

1. Combine the flours and yeast. Add the water, sourdough, and salt to the mixer, then add the flours and yeast. Mix with the dough hook attachment on low speed for 4 minutes. Allow the dough to rest for 15 minutes. Add the sunflower seeds and mix on medium speed for 3 minutes. The dough should be slightly wet but elastic. Mix to the improved stage of gluten development.

2. Bulk ferment the dough until nearly doubled, about 30 minutes.

3. Divide the dough into pieces 1 lb 8 oz/680 g each. Preshape the dough into oblongs (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 5 minutes.

4. Position the dough lengthwise, parallel to the edge of the work surface with the seam side up, and press lightly with your fingertips. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips to tighten.

5. Fold the dough lengthwise in half and use the heel of your hand to seal the two edges, keeping the seam straight. Roll the dough under your palms into a cylinder 8 in/20 cm long, moving your hands outward from the center of the cylinder toward the ends and slightly increasing the pressure as you move outward, until both ends have an even, gentle taper. Then increase the pressure at the ends of the loaf to seal.

6. Proof, covered, in a couche until the dough springs back slowly to the touch but does not collapse, 30 minutes.

7. Score the bâtards straight down the center.

8. Presteam in a 470°F/243°C deck oven. Load the bread into the oven and steam for 3 seconds. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom, 30 to 40 minutes. Vent during the final 10 minutes. Cool completely on racks.

VOLLKORNBROT

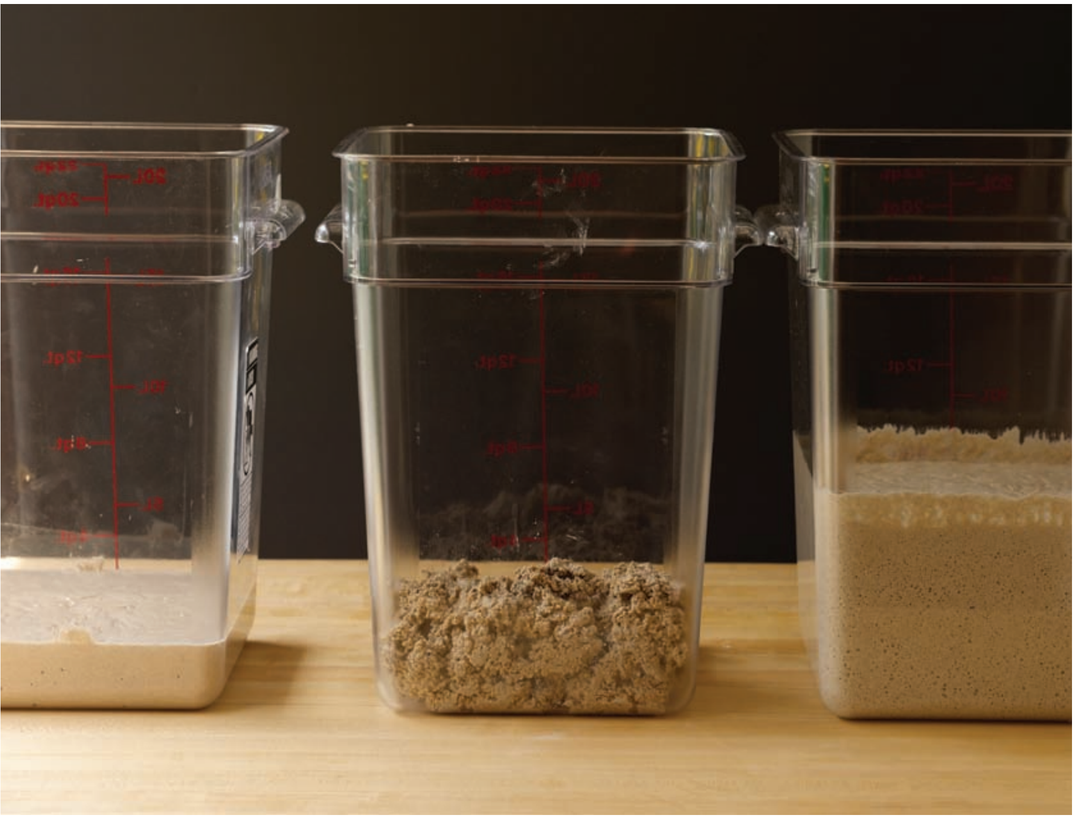
MAKES 29 LB 4½ OZ/13.3 KG DOUGH. DDT: 80°F/27°C

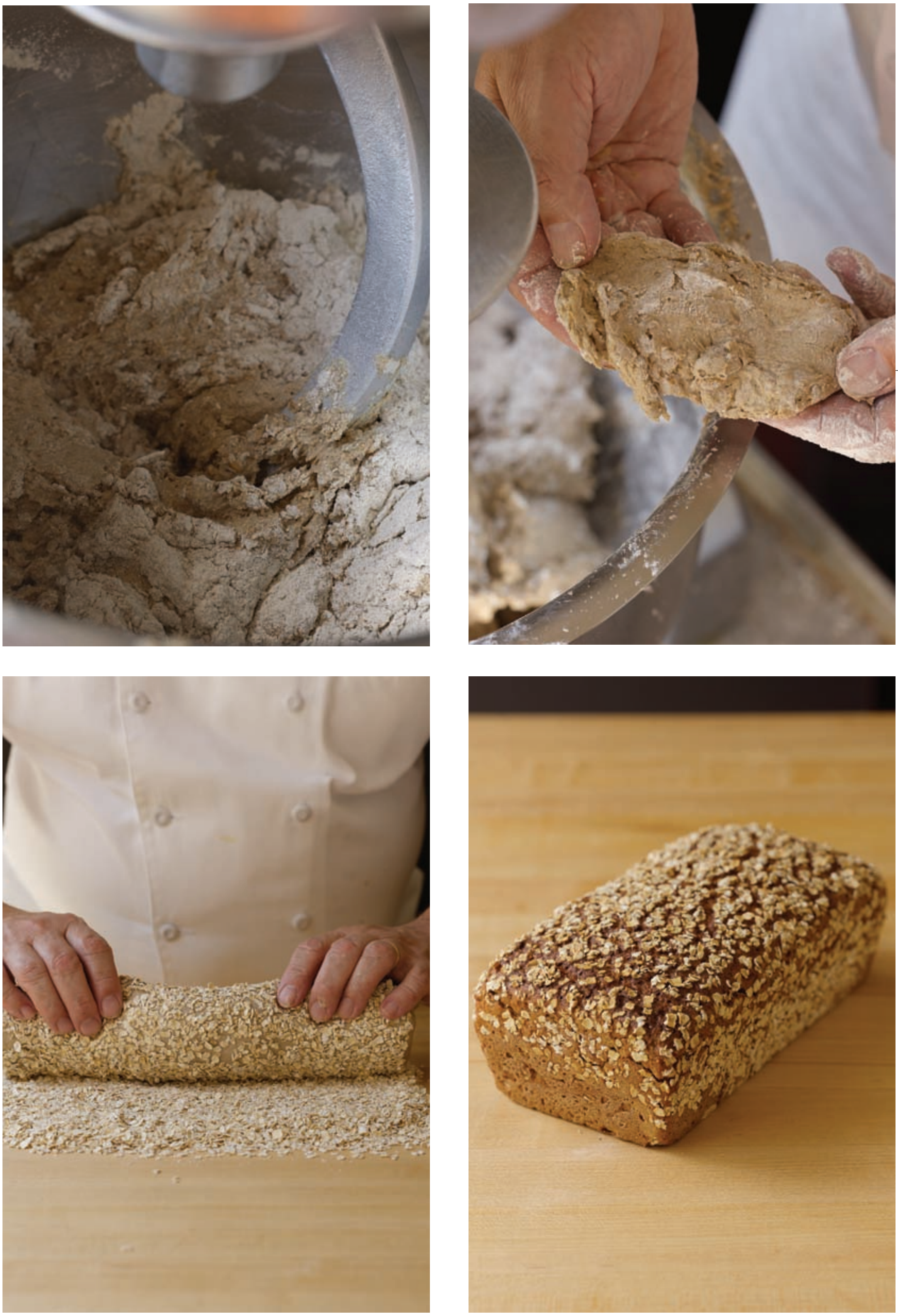
INGREDIENT	BAKER'S %	U.S.	METRIC
Rye flour, medium	100.0%	11 lb	5 kg
Yeast, instant dry	0.9%	1½ oz	45 g
Salt	2.4%	4¼ oz	130 g
Rye Sourdough Starter (page 176)	91.8%	10 lb 2½ oz	4.6 kg
Water	70.6%	7 lb 11 oz	3.5 kg
Rolled oats, for garnish		As needed	As needed
Vegetable oil		As needed	As needed

1. Combine the flour, yeast, salt, and rye sourdough starter and mix on low speed until a homogeneous dough forms, about 8 minutes. The dough should have a plastic consistency, rather than elastic.
2. Remove the dough from mixer and bulk ferment, covered, for about 15 minutes.
3. Scale into 1 lb 8 oz/680 g pieces and shape into rounds. Moisten the dough by rolling on a damp linen-lined sheet tray before rolling in the oats.
4. Place two loaves into a single loaf pan, brushing with oil between the loaves.
5. Load the dough into a 470°F/243°C oven, and immediately reduce the temperature to 440°F/227°C. Bake until the bread is golden brown, 45 to 60 minutes.
6. Remove from oven and immediately turn out of the loaf pans.
7. Place the finished bread on a rack to cool.

TOP: *The original rye sourdough starter is shown on the left. The center container is the sour just after feeding, while the right container shows the fully fermented sour.*

BOTTOM: *The soaker is made by pouring boiling water over rye berries.*





TOP LEFT: *After mixing on low speed, the dough will be slightly sticky.*

TOP RIGHT: *The finished consistency of the dough before fermentation*

BOTTOM LEFT: *Rolling the loaf in oats*

BOTTOM RIGHT: *Finished Vollkornbrot loaf*

LIQUID LEVAIN

YIELD: 11 LB 3¾ OZ/5.1 KG

INGREDIENT	BAKER'S %	U.S.	METRIC
Wheat Sour Starter (page 175)	13.0%	10¾ oz	305 g
Water, 55° to 65°/13° to 18°C	100.0%	5 lb 4½ oz	2.4 kg
Bread flour	100.0%	5 lb 4½ oz	2.4 kg

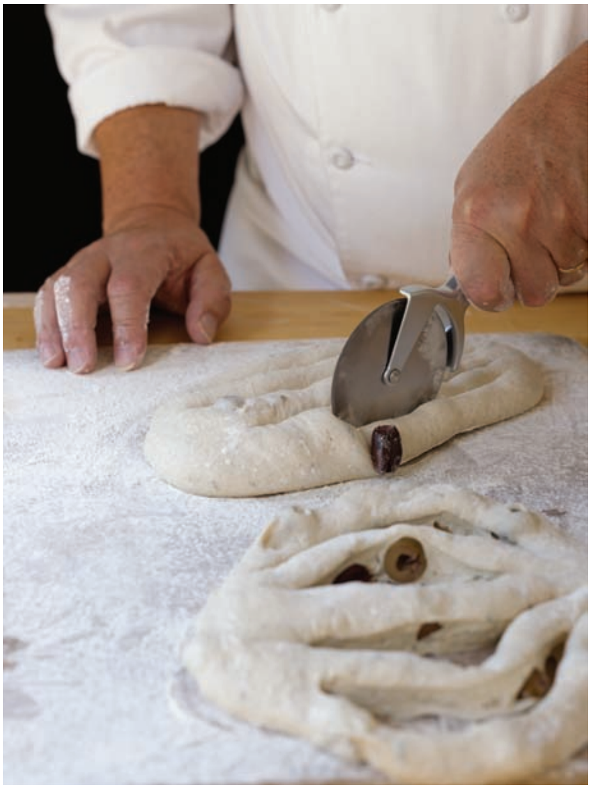
1. Mix the feeding 18 hours before using.
2. In a large bowl or plastic container, dissolve the Wheat Sour Starter in water.
3. Add the flour and mix by hand until homogeneous.
4. Place in a container large enough for dough to double in size.
5. Cover and leave at room temperature to ferment for 10 hours.
6. Feed again and ferment for an additional 8 to 10 hours.

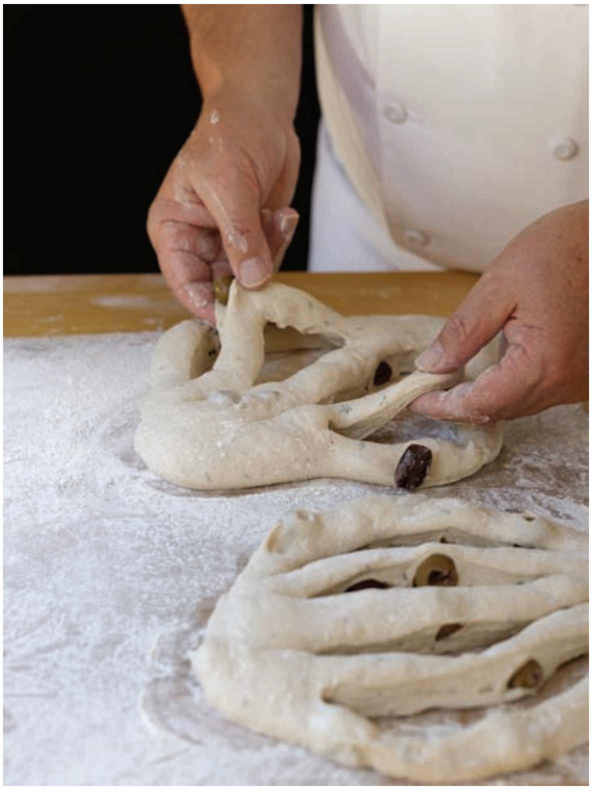
FOUGASSE AUX OLIVES

YIELD: 23 LB 15 OZ/10.86 KG

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	90%	9 lb 14¾ oz	4.5 kg
Whole rye flour	10%	1 lb 1¾ oz	500 g
Liquid Levain (above)	20%	2 lb 3¼ oz	1 kg
Water	67.8%	7 lb 7¾ oz	3.39 kg
Instant dry yeast	0.25%	½ oz	15 g
Sea salt	2%	3½ oz	100 g
Olive oil	2%	3½ oz	100 g
Cured Nyon olives, pitted	25%	2 lb 12 oz	1.25 kg

1. Combine the flour, liquid levain, and water and mix on low speed until homogeneous, about 1½ minutes.
2. Sprinkle the yeast on top of the dough and rest the dough in the mixer for 10 to 15 minutes, to autolyse.
3. Resume mixing on low speed to incorporate the yeast, for about 1 minute. Add the salt and mix until combined, about 30 seconds.
4. Increase the speed to high and mix until the dough reaches the intense stage of gluten development, about 3 minutes.
5. Return the mixer to low and, while mixing, stream in the olive oil. Add the olives, and mix until the ingredients are combined, about 2 minutes.
6. Remove the dough from the mixer and bulk ferment, covered, until doubled in size, about 3 hours. Fold once after the first hour of fermentation.





7. Divide the dough into 1 lb/450 g pieces and pre-shape into rounds. Bench rest for about 15 minutes.

8. Shape the dough into rounds and place seam-side down onto floured couches.

9. Proof the dough for about 2 hours, or as needed, depending on the environment.

10. When loading, stretch the dough into a 10-in/25-cm oval. Using a bench knife or pastry wheel, score three times up each side and once in the top center of the dough. Stretch the prep to open up the scores.

11. Load the dough into a 470°F/243°C oven. Steam for 1 second before loading and 3 seconds after loading. Bake until dark golden brown, about 25 minutes.

CHEF'S NOTE

Feed the liquid levain 18 hours in advance.

TOP LEFT: *Cut four lines into the dough with a pastry wheel.*
TOP RIGHT: *Gently separate the pieces of dough.*
BOTTOM RIGHT: *Finished fougasse loaf*

PAIN PUGLIESE

YIELD: 37 LB 2 OZ/16.9 KG

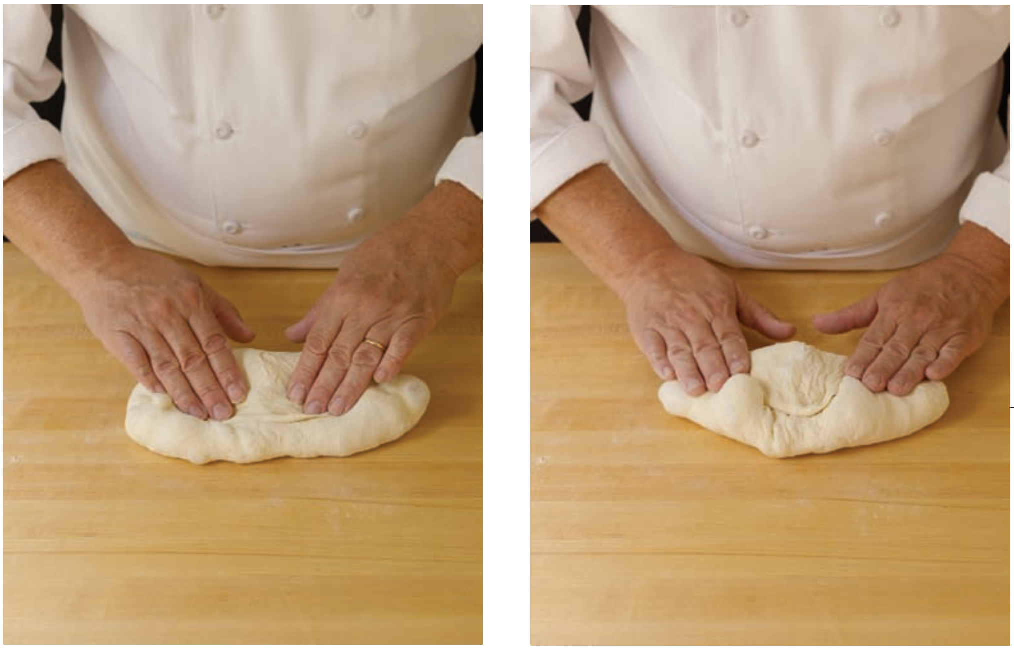
INGREDIENT	BAKER'S %	U.S.	METRIC
BIGA			
Bread flour	100.0%	10 lb	4.54 kg
Water	57.4%	2 lb 10½ oz	1.2 kg
Instant dry yeast	0.02%	¾ oz	3 g
FINAL DOUGH			
Bread flour	100%	11 lb	4.99 kg
Instant dry yeast	3.0%	5½ oz	150 g
Biga (see page 167)	150.0%	16 lb 8½ oz	7.5 kg
Water	80%	8 lb 13 oz	4.0 kg
Sea salt	4.0%	7 oz	200 g

1. To prepare the biga, combine the flour, water, and yeast and mix with the dough hook attachment on low speed for 3 minutes, or until thoroughly combined. Transfer to a container, cover, and ferment at 75°F/24°C for 18 to 24 hours, until the biga has risen and begun to recede; it should still be bubbly and airy.

2. Combine the flour and yeast in the bowl of a mixer. Add the biga, 6 lb 6¾ oz/3.20 kg (80%) of the water, and the salt and mix with the dough hook attachment on low speed for 4 minutes. Increase speed to high and mix for 2 minutes.

3. Add the remaining water in 3 additions, mixing on low speed for 3 minutes more after it has been incorporated. Mix to the improved stage of gluten development.

4. Bulk ferment the dough until doubled, 1½ hours. Fold the dough, then ferment for 1½ hours more.



LEFT: *Make a triangle of dough with one of the points facing down toward you. Fold the bottom point up near the edge of the opposite side and press gently.*

RIGHT: *Fold the top right and top left points of the dough down and press them into the folded-up dough.*

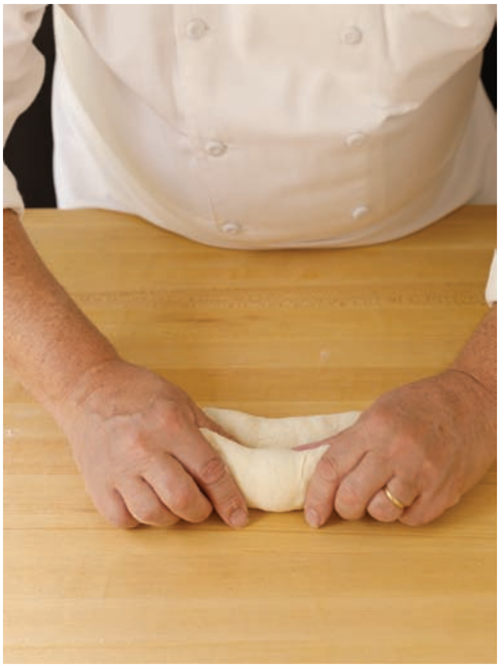
5. Divide the dough into pieces 1 lb 5¼ oz/600 g each. Preshape the dough into oblongs (for preshaping instructions, see page 111). Let the dough rest, uncovered, for 15 minutes.

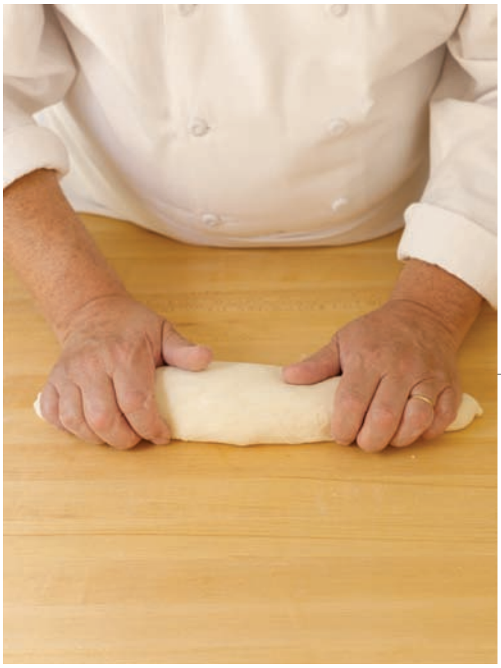
6. Roll the dough into a cigar shape that is 14 in/35 cm long.

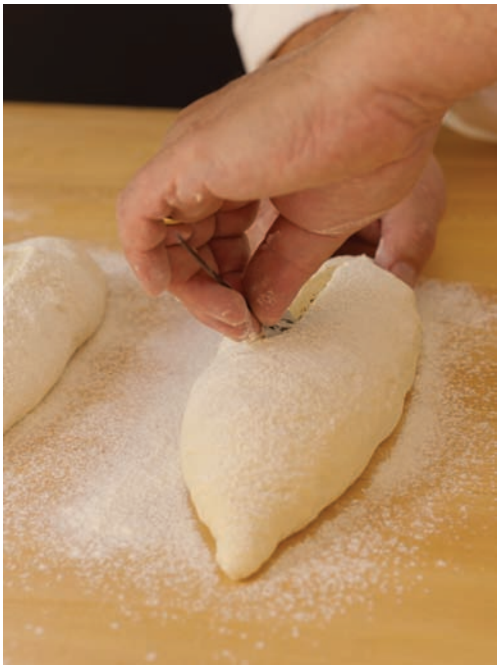
7. Presteam a 475°F/246°C deck oven. Load the bread into the oven. Bake until the crust is golden, 20 minutes. Vent the oven, and continue to bake an additional 10 minutes. Bake until the crust is golden brown and the bread sounds hollow when thumped on the bottom. Cool completely on racks.

CHEF'S NOTE

Feed the biga 18 hours in advance.







TOP LEFT: *Use your thumbs to make a depression in the center of the loaf.*

TOP RIGHT: *Roll the loaf over so that the depression is on the bottom.*

BOTTOM LEFT: *Scoring the loaf*

BOTTOM RIGHT: *Finished Pain Pugliese loaf*

BASELER BROT

YIELD: 15 LB 14 OZ/7.2 KG

INGREDIENT	BAKER'S %	U.S.	METRIC
Rye Sourdough Starter (page 176)	66.7%	4 lb 6½ oz	2.0 kg
Bread flour	83.3%	5 lb 8 oz	2.5 kg
Fine rye flour	16.7%	1 lb 2 oz	510 g
Salt	4.0%	4¼ oz	120 g
Yeast, instant dry	1.7%	1¾ oz	50 g
Water	66.7%	4 lb 6½ oz	2.0 kg
Total Dough Weight	240.0%	15 lb 14 oz	7.2 kg

1. Combine the Rye Sour, bread flour, rye flour, salt, yeast, and water. Mix on low speed until homogeneous, about 4 minutes. Increase the speed to high and mix until the dough reaches the improved stage of gluten development, about 3 minutes.

2. Remove the dough from the mixer and bulk ferment, covered, until doubled in size, about 45 minutes.

3. Divide the dough into 10 oz/285 g pieces and pre-shape into rounds. Bench rest for 15 to 20 minutes.

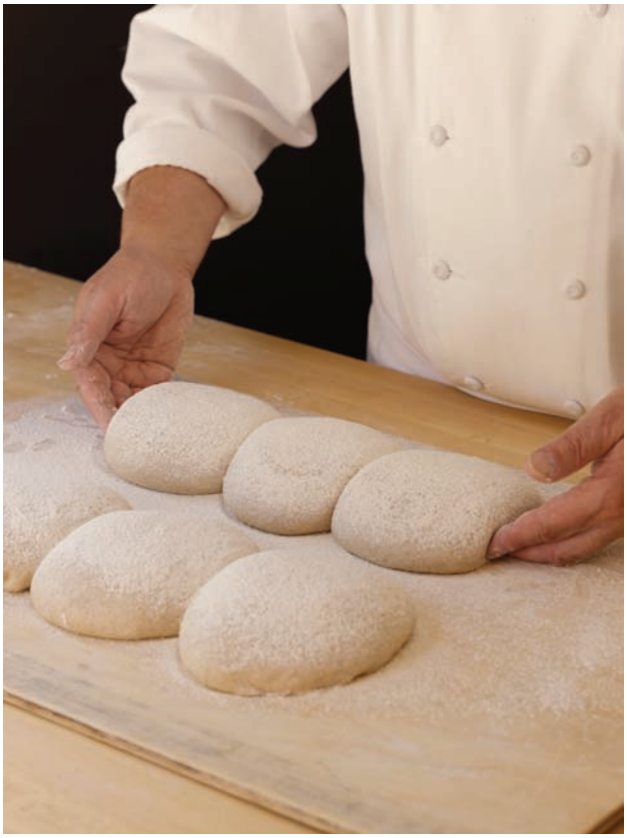
4. Shape the dough into rounds and place 4 in a row on floured couches. The four rounds should touch.

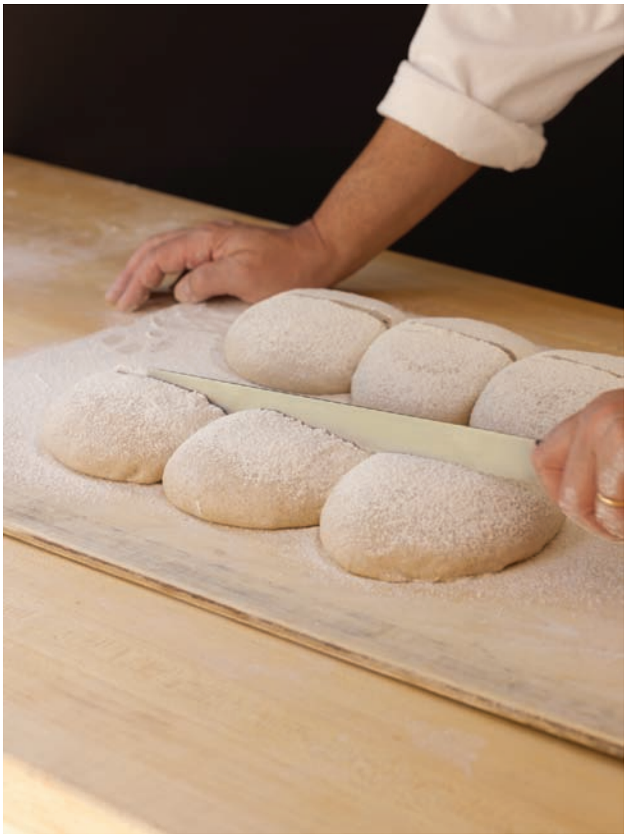
5. Proof for about 1 hour, or as needed, depending on the environment.

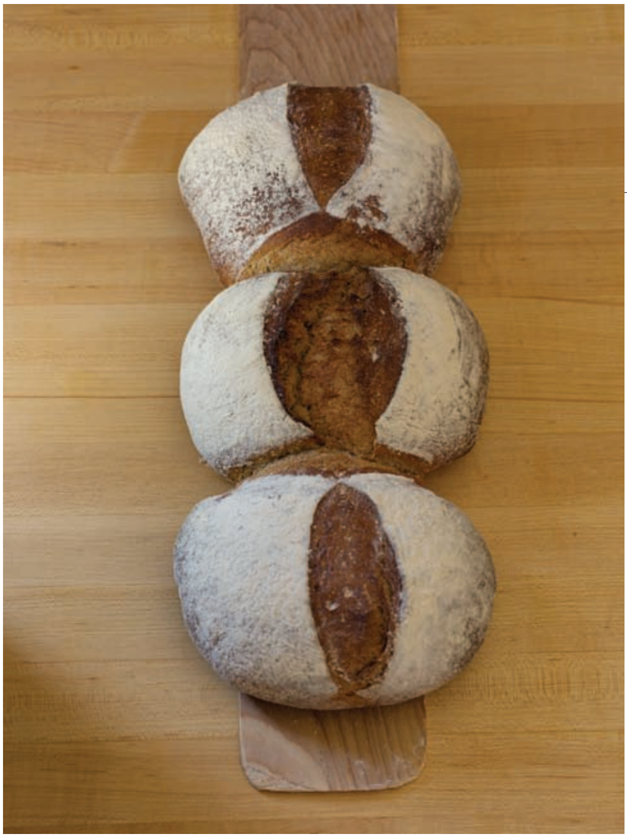
6. Transfer the dough to a loader as one piece, and score across the entire row.

7. Load the dough into a 490°F/254°C oven and immediately lower the temperature to 480°F/249°C. Bake until deep golden brown, about 18 minutes, followed by an additional 12 minutes with the vent open.

8. Place the finished bread on a rack to cool.







TOP LEFT: *Gently push the three boules together.*

TOP RIGHT: *Score the loaf in one long line using a serrated knife.*

BOTTOM LEFT: *Finished Baseler Brot loaf*

HONEY CHALLAH

MAKES 3 LB 2½ OZ/1.43 KG DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
SPONGE			
Bread flour	11.4%	3¼ oz	90 g
Instant dry yeast	1.4%	½ oz	14 g
Water	11.6%	3¼ oz	90 g
FINAL DOUGH			
Bread flour	88.6%	1 lb 9½ oz	720 g
Water	11.6%	3½ oz	90 g
Eggs	22.4%	6½ oz	180 g
Egg yolks	5.7%	1¾ oz	50 g
Vegetable oil	9.2%	2¾ oz	80 g
Sugar	10%	3 oz	85 g
Honey	5.7%	1¾ oz	50 g
Salt	2.1%	¾ oz	20 g
Sponge (above)	24.3%	7 oz	200 g
White rye flour, for dusting		As needed	As needed
Egg Wash (page 1064), made with yolks only		As needed	As needed

1. To prepare the sponge, combine the flour, yeast, and water and mix with the dough hook attachment on low speed for 3 minutes. Ferment at 75°F/24°C for 20 minutes, or until it is active and frothy.

2. To prepare the final dough, combine the flour, water, eggs, egg yolks, oil, sugar, honey, salt, and sponge and mix with the dough hook attachment on low speed for 6 minutes. Scrape down the bowl and mix on high speed for 6 minutes for full gluten development.

3. Bulk ferment the dough until nearly doubled, about 35 minutes.

4. Divide the dough into 2¾ oz/80 g pieces. Preshape the dough into small oblongs (for preshaping instructions, see page 111). Let the dough to rest, covered, for 15 to 20 minutes.

5. Start with the first piece of dough that you shaped and work sequentially. Starting at the center of the dough, roll each piece outward, applying gentle pressure with your palms. Apply very little pressure at the center of the dough, but increase the pressure as you roll toward the ends of the dough. Roll each piece of dough into an evenly tapered strand 12 in/30 cm long. It is imperative that all of the strands be the same length. If they are not, the finished braid will be uneven.

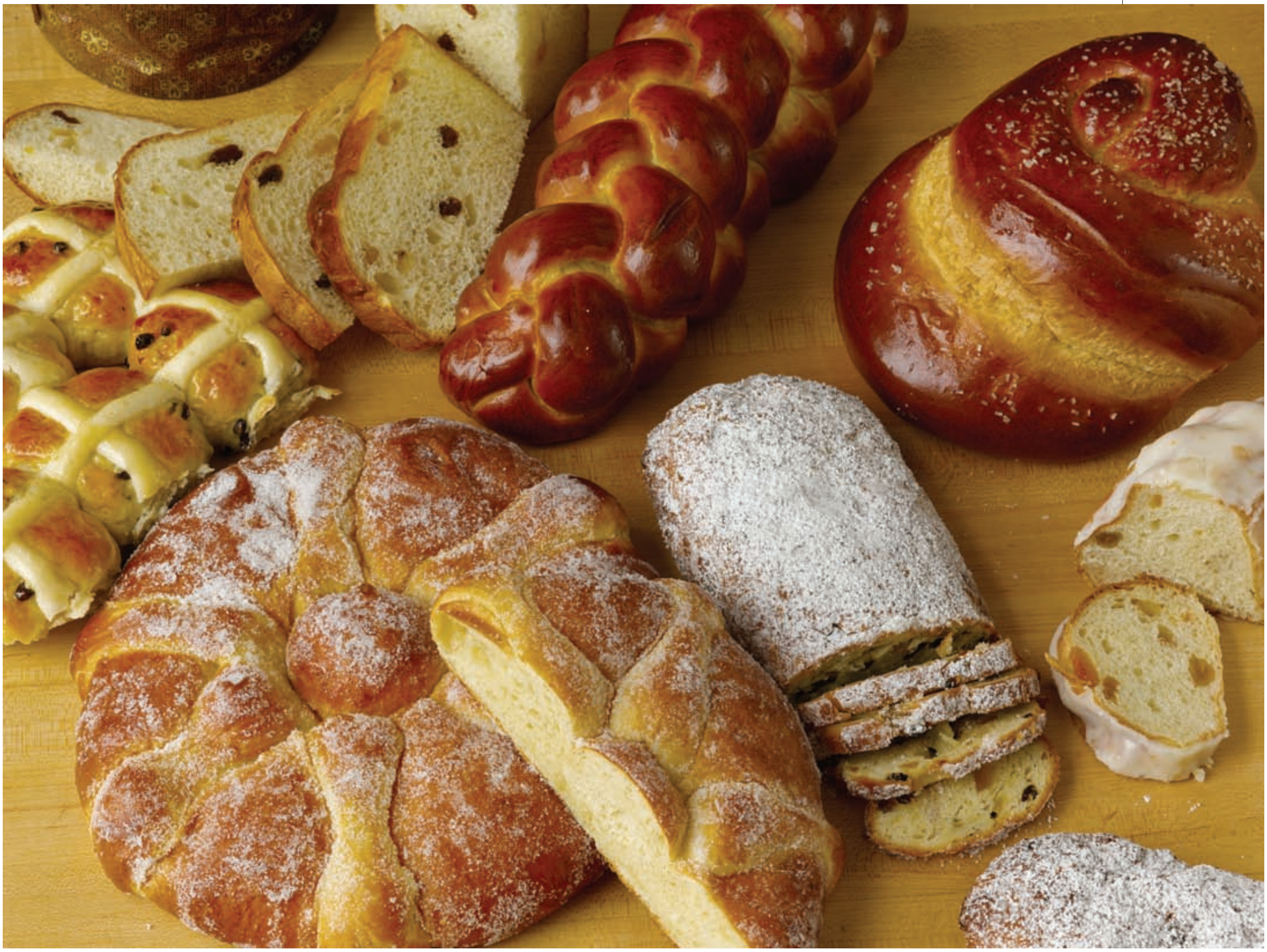
6. Dust the top of the strands very lightly with white rye flour. (This will keep the dough dry as you braid and help maintain the overall definition of the braid.)

7. Lay three strands of dough vertically parallel to each other. Begin braiding in the center of the strands. Place the left strand over the center strand, then place the right strand over the center strand. Repeat this process until you reach the end of the dough. Pinch the ends together tightly.

8. Turn the braid around and flip it over so that the unbraided strands are facing you. Starting again from the left, repeat the braiding process until you reach the end of the dough. Pinch the ends together tightly. Place on parchment-lined sheet pans.

9. Brush the dough lightly with the egg wash. Proof, covered, until the dough springs back lightly to the touch but does not collapse, about 1 hour. There should be a small indentation left in the dough. Make sure that the egg wash is dry before you apply a second coat. Brush very gently with egg wash a third time before baking.

10. Bake in a 375°F/204°C oven until the braids are dark golden brown and shiny, about 20 minutes, or until the internal temperature is 195°F/91°C. Cool completely on a rack.



CLOCKWISE FROM TOP CENTER: *Challah (Six-Braid) (page 141), Brioche Loaf round (page 144), Gugelhopf (page 200), Christmas Stollen (page 202), Day of the Dead Bread (page 214), Hot Cross Buns (page 210), Panettone (page 198)*

PANETTONE

MAKES 12 LB 6½ OZ/5.63 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
SPONGE			
Bread flour	100%	1 lb 8 oz	680 g
Milk (80°F/27°C)	66.7%	1 lb	450 g
Instant dry yeast	6%	1½ oz	43 g
FINAL DOUGH			
Sponge (above)	57%	2 lb 11½ oz	1.23 kg
Bread flour	67%	3 lb 1 oz	1.39 kg
Eggs	25.2%	1 lb 2½ oz	520 g
Milk	18.9%	1 lb ¾ oz	470 g
Instant dry yeast	0.75%	½ oz	14 g
Salt	2.75%	2 oz	60 g
Orange zest purée	0.75%	½ oz	14 g
Lemon zest purée	0.75%	½ oz	14 g
Butter (55°F/13°C)	18.9%	1 lb	450 g
Sugar	14.6%	10¾ oz	300 g
Glucose syrup	2%	2¾ oz	80 g
Malt syrup	0.2%	¼ oz	7 g
Candied orange peel	12.75%	9¼ oz	260 g
Candied lemon peel	12.75%	9¼ oz	260 g
Raisins	12.6%	9¼ oz	260 g
Golden raisins	12.6%	9¼ oz	260 g
Egg Wash (page 1064)		As needed	As needed
Unsalted butter		As needed	As needed

1. To prepare the sponge, mix the flour, milk, and yeast with the dough hook attachment on low speed or 2 minutes on low speed and 1 minute on medium speed. Cover and ferment at 75°F/24°C until the sponge has risen and just begun to recede, about 30 minutes.

2. To prepare the final dough, combine the sponge, flour, eggs, milk, yeast, salt, orange and lemon zests, and one-third of the butter. Mix with the dough hook attachment on low speed for 4 minutes and on high speed for 2 minutes, to the improved stage of gluten development.

3. Keeping the mixer on high speed, add another third of the butter and mix until incorporated. Add the sugar, glucose syrup, and malt syrup in two additions, making sure to let the additions become fully incorporated before adding the next one, and scraping the bowl in between additions.

4. Add the remaining one-third of the butter and mix to the intense stage of gluten development.

5. Bulk ferment the dough until nearly doubled, about 1 hour. Divide the dough into pieces 1 lb 4 oz/570 g each for large loaves or 3¼ oz/92 g for small loaves. Grease paper panettone wrappers.

6. Round the dough to create a tight, smooth boule. Place the dough seam side down in the panettone wrapper. Lightly brush the top of the loaf with egg wash.

7. Allow to proof, covered, until the dough springs back slowly to the touch but does not collapse, about 1 hour 30 minutes.

8. Lightly brush the bread with egg wash again. Score the bread with an X in the center. Insert a small pat of unsalted butter in the center of the cut.

9. Bake in a 385°F/196°C convection oven until the panettone is golden brown and the sides spring back fully when touched through the wrapper, 20 to 25 minutes for large loaves and 15 to 17 minutes for small loaves. Cool completely on racks.

CHOCOLATE AND PECAN BABKA

MAKES 4 LOAVES (1 LB 5 OZ/600 G EACH). DDT: 75°F/24°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Brioche dough (page 144)	100%	3 lb 5 oz	1.5 kg
Chocolate Filling (page 1067)	34%	1 lb 2 oz	510 kg
Pecans, toasted and coarsely chopped	26.4%	14 oz	340 g

1. Scale the brioche dough into two pieces 1 lb 10½ oz/750 g each and roll each into a 10 by 12-inch/25 by 30-cm rectangle. Place on a parchment-lined sheet pan, cover, and refrigerate overnight.

2. Allow the brioche dough and chocolate filling to stand at room temperature for 30 minutes.

3. Start with one piece of dough and work sequentially. Place on a floured work surface and roll to an 18-inch/46-cm square. Spread half of the filling on the dough, leaving a ½-inch/1-cm border at the top and bottom. If the filling is too stiff to spread, warm slightly in the microwave. Sprinkle half the pecans evenly over the filling.

4. Fold the top edge of the dough down to the bottom, pressing lightly with your fingertips to tighten. Repeat folding the top onto the bottom until there is no more dough to fold over. Press on the seam to seal it.

5. Place the dough seam side down on a work surface and lightly flour the dough. Cut the dough in half crosswise and place each half with the cut end facing you. Lightly press on the dough with your fingertips to flatten it and create more surface area. Cut the dough into three strands, keeping the strands connected at the top with an uncut portion.

6. To braid the three strands together, place the left strand over the center strand, then place the right strand over the center strand. Repeat this process until you reach the end of the dough. Pinch the ends together tightly. Repeat with the remaining dough, filling, and nuts.

7. Place in four greased 2 lb/910 g loaf pans (4½ in/11 cm wide, 8 in/20 cm long, and 3 in/8 cm deep). Proof, covered, until the dough is almost double in size and springs back slowly to the touch but does not collapse, 2½ to 3 hours.

8. Bake in a 400°F/204°C oven for 45 to 50 minutes, to an internal temperature of 205°F/96°C.

9. Remove from the oven and let sit in the pans from 5 minutes. Remove from the pans and cool completely on a rack.

GUGELHOPF

MAKES 15 LB 8¼ OZ/7.04 KG DOUGH. DDT: 79°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
SPONGE			
Bread flour	100%	2 lb 4 oz	1.02 kg
Milk (75°F/24°C)	100%	2 lb 4 oz	1.02 kg
Instant dry yeast	7.6%	2¾ oz	80 g
Vanilla beans, split and scraped (seeds only)		4	4
FINAL DOUGH			
Sugar	20.75%	1 lb 6 oz	620 g
Salt	1.4%	1½ oz	40 g
Butter, soft	20.75%	1 lb 6 oz	620 g
Eggs	13.2%	2 lb	910 g
Bread flour	66%	4 lb 6 oz	1.98 kg
Sponge (above)	70.5%	4 lb 10¾ oz	2.12 kg
Raisins	20.75%	1 lb 6 oz	620 g
Almonds, chopped	3.75%	4 oz	110 g
Egg Wash (page 1064)		As needed	As needed
Unsalted butter		As needed	As needed

1. To prepare the sponge, mix the flour, milk, yeast, and vanilla bean seeds with the dough hook attachment on low speed until blended, about 2 minutes. Cover and ferment at 75°F/24°C until the sponge has risen and just begun to recede, about 30 minutes.

2. To prepare the final dough, cream the sugar, salt, and butter on medium speed with the dough hook attachment, scraping down the bowl periodically until smooth, fluffy, and lighter in color, about 5 minutes. Gradually add the eggs, scraping down the bowl periodically.

3. Add the bread flour and the sponge. Mix on low speed for 4 minutes and on medium speed for 4 minutes, until the dough is completely smooth.

4. Add the raisins and almonds. Mix on low speed for about 2 minutes. The dough should be moist but have strong gluten development.

5. Bulk ferment the dough until nearly doubled in size, 30 to 40 minutes.

6. Divide the dough into pieces 1 lb 4 oz/570 g each. Preshape the dough into large rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 10 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

7. Grease 5 large paper panettone wrappers. Re-round the dough to create a tight, smooth boule. Place the dough seam side down in the panettone wrapper. Lightly brush the top of the loaf with egg wash.

8. Proof, covered, until the dough springs back slowly to the touch but does not collapse, about 1 hour 40 minutes.

9. Lightly brush the bread with egg wash again. Score the bread with an X in the center. Insert a small pat of unsalted butter in the center of the cut.

10. Bake in a 385°F/196°C convection oven until the gugelhopf is golden brown and the top springs back when touched, 35 to 40 minutes. Cool completely on a rack.

CHRISTMAS STOLLEN

MAKES 9 LB 10¾ OZ/4.39 KG DOUGH. DDT: 80°F/27°C

INGREDIENT	BAKER'S %	U.S.	METRIC
FRUIT AND NUT MIXTURE			
Golden raisins	53.2%	2 lb 3¼ oz	1 kg
Candied lemon peel	15.5%	10½ oz	300 g
Candied orange peel	0.6%	4½ oz	130 g
Dark rum	5.2%	3½ oz	100 g
Almonds, whole, blanched	19.5%	13¼ oz	380 g
SPONGE			
Bread flour	100%	1 lb 6 oz	620 g
Milk (85°F/29°C)	60.3%	13¼ oz	380 g
Instant dry yeast	0.5%	1 oz	30 g
FINAL DOUGH			
Sponge (above)	88%	2 lb 4¼ oz	1.03 kg
Bread flour	50%	1 lb 6 oz	620 g
Butter, room temperature	54.5%	1 lb 8 oz	680 g
Almond paste	4.5%	2 oz	60 g
Sugar	4.5%	2 oz	60 g
Salt	2.25%	1 oz	30 g
Lemon zest, grated	0.57%	1¼ tsp	7 g
Ground cloves	0.15%	Pinch	Pinch
Ground ginger	0.15%	Pinch	Pinch
Ground all spice	0.15%	Pinch	Pinch
Ground cinnamon	0.15%	Pinch	Pinch
Fruit and Nut Mixture (above)	154.5%	4 lb 3 oz	1.9 kg
GARNISH			
Clarified butter, melted		As needed	As needed
Vanilla Sugar (page 1080), for coating		As needed	As needed
Confectioners' sugar, for dusting		As needed	As needed

1. To prepare the fruit and nut mixture, rinse the raisins and lemon and orange peels with warm water and combine them with the rum in a plastic container. Cover and let the mixture soak at 75°F/24°C for at least 8 and up to 24 hours. Reserve the almonds to be added later.

2. To prepare the sponge, mix the flour, milk, and yeast with the dough hook attachment on low speed until blended, about 2 minutes. Cover and ferment at 75°F/24°C until the sponge has risen and just begun to recede, 30 to 40 minutes.

3. To prepare the final dough, mix the sponge, flour, butter, almond paste, sugar, salt, lemon zest, cloves, ginger, allspice, and cinnamon with the dough hook attachment on medium speed for 3 minutes. The dough should be sticky but have sufficient gluten development.

4. Bulk ferment the dough until nearly doubled, about 35 minutes. Add the almonds to the fruit mixture and very carefully fold it into the dough (see "Adding Flavorings and Garnishes," page 166). Bulk ferment the dough until nearly doubled again, about 15 minutes.

5. Divide the dough into 1 lb/450 g pieces. Preshape the dough into large rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes. (Reminder: When making multiple loaves, work sequentially, starting with the first piece of dough you divided and rounded.)

6. Gently flatten the dough with your fingertips. Working with the seam side up, fold the dough in half. Seal the two edges by pressing firmly with the heel of your hand, keeping the seam straight. Roll the dough under your palms into a cylinder 8 in/20 cm long, keeping the pressure even and holding your hands flat and parallel to the work surface to create a smooth, even roll.

7. Turn the dough lengthwise, parallel to the edge of the worktable with the seam side down. Roll half of the dough into a flap ¼ in/0.6 cm thick in the shape of a semicircle. The edges of the flap should be ½ in/1 cm thick.

8. Fold ½ in/1 cm of the left and right sides of the dough toward the center of the dough. Roll the folded left and right edges of the dough so that they are the same thickness as the rest of the flap of dough.

9. Make an indentation lengthwise down the center of the thicker half of the dough with a straight rolling pin. Fold the flap over and insert the thicker edge of the flap into the indentation. Press into place by gently rolling with the rolling pin. Place on parchment-lined sheet pans.

10. Proof, covered, until the dough relaxes slightly, about 30 minutes.

11. Bake in a 350°F/177°C deck oven until the stollen is golden brown and sounds hollow when thumped on the bottom, 30 to 35 minutes. Cool on racks just until the bread can be handled; it should still be warm.

12. While the bread is still hot, remove any burnt fruit or nuts from the outside. Brush the sides, top, and bottom of the bread with clarified butter and roll in vanilla sugar. Cool completely on racks.

13. The next day, dust the stollen with sifted confectioners' sugar just before wrapping or slicing.

SOFT PRETZELS

MAKES 8 LB 13¾ OZ/4.02 KG DOUGH. DDT: 75°F/24°C

INGREDIENT	BAKER'S %	U.S.	METRIC
Bread flour	100%	5 lb 8 oz	2.5 kg
Instant dry yeast	1.2%	1 oz	30 g
Water	50%	2 lb 12 oz	1.25 kg
Butter, cubed, soft	5.1%	4½ oz	130 g
Malt syrup	2.25%	2 oz	60 g
Salt	2%	1¾ oz	50 g
LYE SOLUTION			
Water (105°F/41°C)		2 lb	910 g
Sodium hydroxide pellets		1¼ oz	40 g
GARNISH			
Coarse salt		As needed	As needed

1. Combine the flour and yeast. Add the water, butter, malt syrup, and salt to the mixer, then add the flour and yeast. Mix with the dough hook attachment on low speed for 2 minutes and on medium speed for 6 minutes. The dough should be stiff, with strong gluten development.

2. Bulk ferment the dough until nearly doubled, about 15 minutes.

3. Divide the dough into 5½-oz/160-g pieces. Preshape the dough into small oblongs (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 5 to 10 minutes.

4. Work sequentially, starting with the first piece of dough you divided and rounded. One at a time, stretch each piece of dough into a rectangle 10 in/25 cm long. Fold the top edge of the dough down to the center of the dough, pressing lightly with your fingertips. Fold the top edge of the dough to the bottom edge. Using the heel of your hand, seal the two edges together.

5. Turn the dough seam side down. Starting with each of your hands 2 in/5 cm from the center of the dough, roll the dough under your palms until it is 30 in/76 cm long, with a thicker portion 4 in/10 cm long in the center.

6. Lay the dough on the table and cross the ends over each other, leaving 3 in/8 cm of dough on each side of the crossing point (the thicker center of the dough should be closest to you). Twist the ends together once. Bring the ends of the dough over and attach them to either side of the thicker center of the dough, pressing gently to seal them. Transfer to a parchment-lined sheet pan.

7. Proof, covered, until the dough gives slightly when touched, about 30 minutes.

8. Relax the dough under refrigeration until it forms a skin, about 25 minutes.

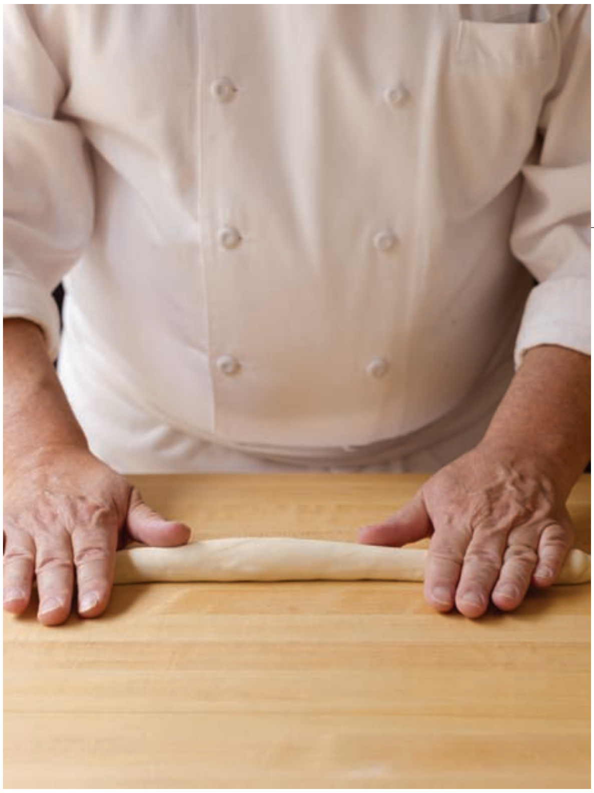
9. To prepare the lye solution, bring the water to a boil and add it to the sodium hydroxide pellets, stirring until the pellets are completely dissolved. (Reminder: Wear protective gloves and goggles; be careful not to get any of the solution on your skin.)

10. Remove the pretzels from the refrigerator and allow them to stand for 5 to 10 minutes. (Caution: If you dip the pretzels right away, the

water temperature will drop and the sodium hydroxide will be less likely to stay in solution.)

11. Using a spider, dip the pretzels in the lye solution and then place them on screens to drain. Sprinkle the pretzels immediately with coarse salt. Make an incision 3 in/8 cm long and ¼ in/0.6 cm deep in the thickest part of each pretzel.

12. Place the pretzels on sheet pans lined with a silicone mat or lightly oiled parchment paper and bake in a 475°F/246°C deck oven (with the vent open) until deep golden brown, 12 to 15 minutes. Cool completely on racks.



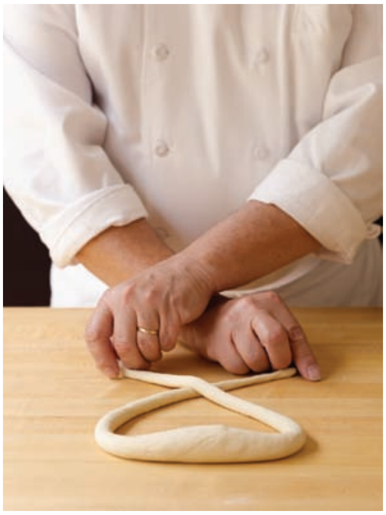
TOP LEFT: *Roll the dough to about 30 in/76 cm long. The center should be thicker than the ends.*

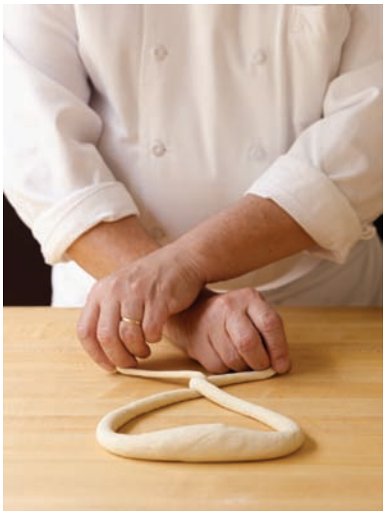
TOP MIDDLE: *Place the dough in a U shape on the table and cross the ends.*

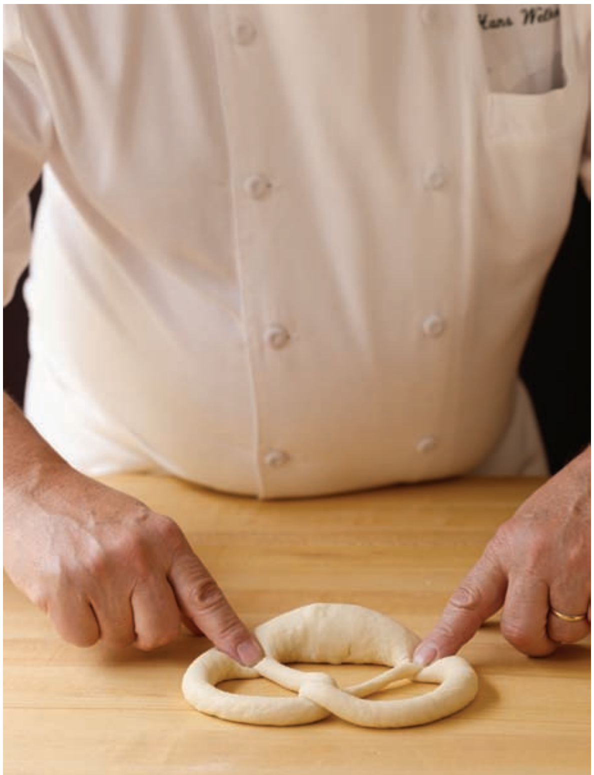
TOP RIGHT: *Twist the ends together once.*

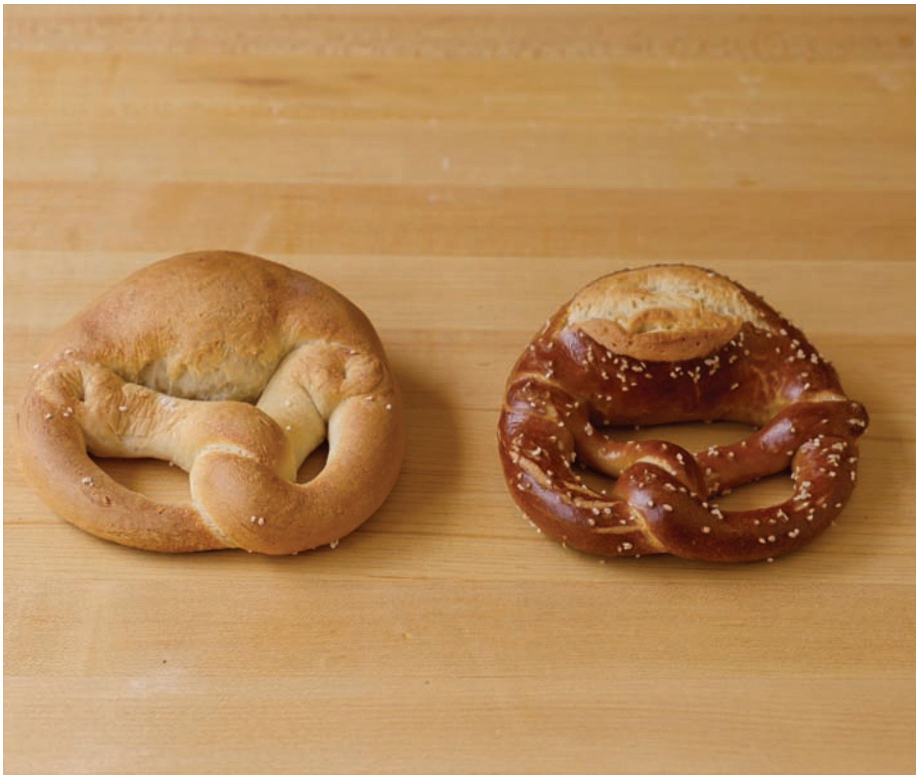
BOTTOM LEFT: *Bring the ends back down and firmly press to adhere.*

BOTTOM RIGHT: *Pretzel baked without dipping in lye solution (left), and a pretzel dipped in lye solution prior to baking (right)*









PITA WITH POOLISH

MAKES 7 LB/3.18 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
POOLISH			
Bread flour	23.1%	15 oz	430 g
Water	23.1%	15 oz	430 g
Instant dry yeast	0.3%	¼ tsp	1 g
FINAL DOUGH			
Bread flour	76.9%	3 lb 2½ oz	1.43 kg
Water	46.2%	1 lb 14¼ oz	860 g
Instant dry yeast	0.3%	¼ oz	7 g
Salt	1.5%	1 oz	30 g
Poolish (above)	46.2%	1 lb 14¼ oz	860 g

1. To prepare the poolish, combine the flour, water, and yeast and mix with the dough hook attachment on low speed for 3 minutes. Ferment for 18 hours.

2. To prepare the final dough, combine the flour, water, yeast, salt, and poolish and mix with the dough hook attachment on low speed for 4 minutes and on medium speed for 3 minutes. Mix to the improved stage of gluten development.

3. Bulk ferment the dough until nearly doubled in volume, about 1 hour.

4. Divide the dough into 3-oz/90-g pieces. Preshape the dough into small rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 to 20 minutes.

5. Work sequentially, starting with the first piece of dough you divided and rounded. Using a rolling pin, roll each piece of dough into a round 7 in/18 cm in diameter. Transfer to parchment lined sheet pans, cover, and let the rounds relax for 20 minutes.

6. Bake in a 500°F/260°C deck oven until puffed but not browned, 3 to 4 minutes. Stack the pitas five high and wrap each stack in a cloth. Cool in a cloth to retain moisture before serving.

NAAN WITH BIGA

MAKES 13 LB 5 OZ/6.04 KG DOUGH. DDT: 74°F/23°C

INGREDIENT	BAKER'S %	U.S.	METRIC
BIGA			
Bread flour	17.3%	1 lb 3¼ oz	550 g
Instant dry yeast	0.01%	⅛ tsp	0.5 g
Water	11.2%	12½ oz	360 g
FINAL DOUGH			
Bread flour	77.7%	5 lb 6½ oz	2.46 kg
Whole wheat flour	5%	5¾ oz	160 g
Water	33.3%	2 lb 5 oz	1.05 kg
Plain yogurt	41.4%	2 lb 14 oz	1.3 kg
Olive oil	3.1%	3½ oz	100 g
Instant dry yeast	0.4%	½ oz	14 g
Salt	1.9%	2 oz	60 g
Biga (above)	28.6%	2 lb	910 g
Garnish such as seeds (optional)		As needed	As needed

1. To prepare the biga, mix together the flour, yeast, and water on low speed with the dough hook attachment for 4 minutes and on medium speed for 2 minutes. Ferment for 18 hours.

2. To make the final dough, combine the flours, water, yogurt, olive oil, yeast, salt, and biga and mix with the dough hook attachment on low speed for 4 minutes. The dough should be very elastic but still wet.

3. Bulk ferment the dough until nearly doubled, about 1 hour. Gently fold. Let the dough ferment for another 30 minutes.

4. Divide the dough into 6 equal portions. Proof the dough, covered, for 45 minutes, or until nearly doubled in size.

5. Cut each portion into 6 pieces and stretch each to 3 in/8 cm wide and 10 in/25 cm long. If desired, gently depress the centers. Spray with water and place garnish, if desired, in the center of each bread.

6. Bake in a 500°F/260°C deck oven for 8 to 10 minutes, or until a light golden brown. Cool completely on racks.

FILLED FLATBREAD

MAKES 8 FLATBREADS (9 OZ/260 G EACH). DDT: 75°F/24°C

INGREDIENT	U.S.	METRIC
Olive oil	2 oz	60 g
Garlic, minced	1 oz	30 g
Green peppers, minced	11 oz	310 g
Canned plum tomatoes, drained, seeded and coarsely chopped	1 lb 1½ oz	500 g
Green onions, minced	2 oz	60 g
Salt	1 tsp	6 g
Red pepper flakes	1 tsp	2 g
Ground caraway	¼ tsp	0.5 g
Ground coriander	¼ tsp	0.5 g
Ground cumin	¼ tsp	0.5 g
Flat-leaf parsley, minced	2 oz	60 g
Naan with Biga dough (page 207) or Naan dough (page 136)	3 lb 5½ oz	1.52 kg
Olive oil, for frying	As needed	As needed

1. To prepare the filling, heat the olive oil in a sauteuse. Add the garlic and cook over medium heat until it just begins to brown lightly. Add the peppers and cook until they soften, stirring occasionally, about 2 minutes. Add the tomatoes and simmer until the mixture thickens, stirring occasionally, about 15 minutes.

2. Add the green onions, salt, red pepper flakes, caraway, coriander, and cumin and simmer for 1 minute. Stir in the parsley. Transfer the filling to a stainless-steel bowl and allow to cool to room temperature.

3. Divide the dough into sixteen 3¼-oz/90-g pieces. Preshape the dough into small rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 10 to 15 minutes.

4. Work sequentially, starting with the first piece of dough you divided and rounded. Using a rolling pin, roll each piece of dough into a round 6 in/15 cm in diameter. Spread 3 oz/90 g filling in the center of each of 8 rounds, leaving a 1-in/3-cm border all around. Brush the exposed border with water.

5. Place one of the remaining 8 rounds on top of each of the filled pieces of dough. Pinch the edges of each bread together and then stretch the dough gently into a round 9 in/23 cm in diameter.

6. Heat a small amount of olive oil in a sauteuse until it is almost smoking. Add one bread and cook for 1 minute, then flip it over. Fry until there are light brown specks on the bottom, another 2 to 2½ minutes. Flip the bread over once again and fry until lightly browned, another minute. Fry the remaining breads, adding more oil as necessary.

7. Keep the breads warm by wrapping them in a cotton cloth and shingling them in a basket.

HOT CROSS BUNS

MAKES 9 LB 8 OZ/4.31 KG DOUGH. DDT: 75°F/24°C

INGREDIENT	BAKER'S %	U.S.	METRIC
SPONGE			
Bread flour	39.9%	1 lb 9¾ oz	730 g
Instant dry yeast	2.5%	1½ oz	40 g
Milk, warm, 85°F/30°C	50%	2 lb ¼ oz	910 g
FINAL DOUGH			
Bread flour	60.1%	2 lb 6¾ oz	1.10 kg
Eggs	15.3%	10 oz	300 g
Lemon zest, puréed	1.5%	1 oz	30 g
Butter	15.3%	10 oz	300 g
Honey	3.2%	2 oz	60 g
Malt syrup	0.5%	2 tsp	10 g
Sugar	15.3%	10 oz	300 g
Ground cinnamon	0.1%	Pinch	Pinch
Ground nutmeg	0.1%	Pinch	Pinch
Ground allspice	0.1%	Pinch	Pinch
Salt	2.5%	1½ oz	43 g
Sponge (above)	92.4%	3 lb 11½ oz	1.7 kg
Currants, plumped (page 769)	30%	1 lb 3½ oz	550 g
Candied Lemon Peel, chopped (see page 938)	12.1%	8 oz	230 g
Egg Wash (page 1064)		As needed	As needed
Hot Cross Topping (recipe follows)		As needed	As needed
Danish Glaze (page 1072)		As needed	As needed

1. To prepare the sponge, combine the flour, yeast, and milk and mix on low speed with the dough hook attachment for 2 minutes and on medium speed for 1 minute. Ferment for 30 minutes.

2. To prepare the final dough, combine the flour, eggs, lemon zest, butter, honey, malt syrup, sugar, cinnamon, nutmeg, allspice, salt, and sponge and mix for 4 minutes on low speed with the dough hook attachment and for 4 minutes on high speed. Mix in currants and candied peel for 1 minute on low speed until smooth.

3. Bulk ferment the dough until nearly doubled, about 45 minutes.

4. Divide the dough into 2-oz/60-g pieces. Shape each piece of dough into a tight round. Proof for 15 minutes.

5. Reshape the pieces of dough into tight rounds and place on a parchment-lined sheet tray, paper, leaving approximately 3 in/8 cm between the buns. Lightly brush with egg wash. Proof the dough for another 45 minutes.

6. Brush the tops of the buns again with egg wash and let them dry for 5 minutes. Fill a pastry bag fitted with a #2 tip with the topping and pipe across the top of each roll.

7. Bake in a 375°F/191°C deck oven until golden brown, 18 minutes.

8. Heat the glaze. Remove the buns from the oven and brush with the hot glaze. Cool completely on racks.

HOT CROSS BUN TOPPING

MAKES 2 LB 8 OZ/1.13KG TOPPING

INGREDIENT	U.S.	METRIC
Butter, melted	8 oz	230 g
Sugar	8 oz	230 g
Eggs	1½ oz	40 g
Milk	6 oz	170 g
Vanilla extract	1 tbsp	15 mL
Lemon zest, puréed	¼ oz	7 g
Cake flour	1 lb	450 g

In a mixer with the paddle attachment, mix the butter, sugar, eggs, milk, vanilla, and lemon zest, scraping down the bowl occasionally. Add the flour and mix thoroughly, scraping down the bowl. Use immediately.

BIALYS

MAKES 18 LB 8 OZ/8.39 KG DOUGH. DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
SPONGE			
High-gluten flour	30%	3 lb 6 oz	1.5 kg
Instant dry yeast	0.1%	1¼ tsp	4 g
Water	30%	3 lb 6 oz	1.5 kg
FINAL DOUGH			
High-gluten flour	70%	7 lb 14 oz	3.57 kg
Water	31%	3 lb 8 oz	1.59 kg
Instant dry yeast	0.4%	¾ oz	21 g
Salt	2.3%	4 oz	110 g
Malt syrup	0.4%	¾ oz	20 g
Sponge (above)	60%	6 lb 12 oz	3.06 kg
Flour, for dusting		As needed	As needed
TOPPING			
Onions, medium dice		1 lb 4 oz	570 g
Olive oil		1 oz	30 g
Salt		2 tsp	10 g
Poppy seeds		1¾ tsp	3.5 g
Olive oil, for brushing		As needed	As needed

1. To prepare the sponge, combine the flour, yeast, and water and mix on low speed with the dough hook attachment for 4 minutes. Ferment until nearly doubled in size, about 1½ hours.

2. To prepare the final dough, combine the flour, water, yeast, salt, malt syrup, and sponge and mix with the dough hook attachment on low speed for 4 minutes and on high speed for 6 minutes until smooth.

3. Divide the dough into 4½-oz/130-g pieces. Preshape the dough into small rounds (for preshaping instructions, see page 111). Let the dough rest, covered, until relaxed, 15 minutes.

4. Dust both sides of each piece of dough with flour and make a depression in the center with your fingers, or use a round 2-lb/910-g balance beam counterweight wrapped with plastic wrap. This will make a flat center 3 in/8 cm in diameter. Place the pieces of dough on trays sprinkled with semolina. Retard the dough, covered, in the refrigerator or freezer overnight.

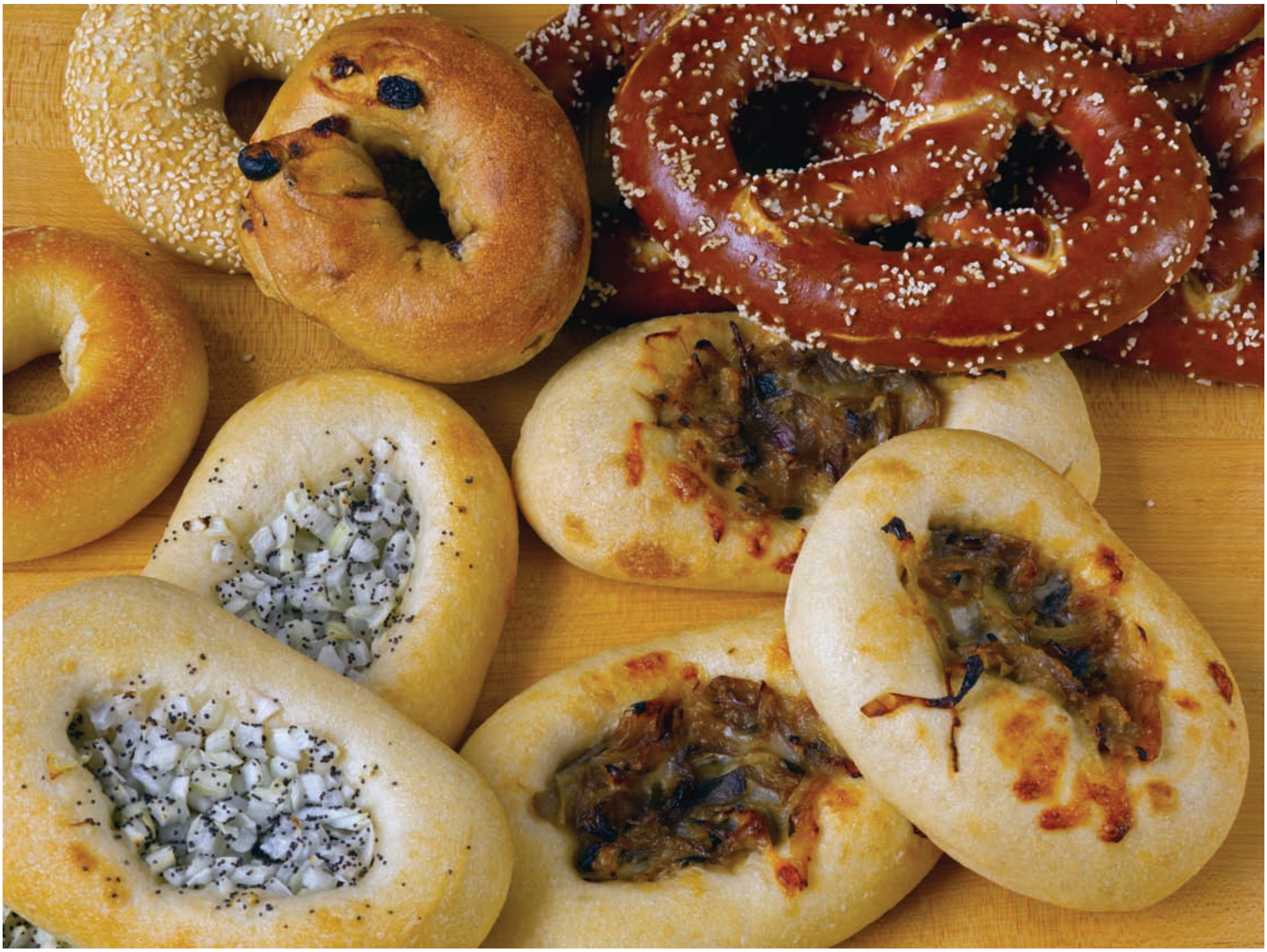
5. If the dough is frozen, place it in the refrigerator to thaw overnight. Keep the dough at room temperature for 30 minutes before shaping.

6. To prepare the topping, sauté the onions in the olive oil until translucent. Add the salt and poppy seeds. Allow to cool completely.

7. Shape each piece of bialy dough into an oblong and place 9 bialys on a parchment-lined sheet pan (3 across and 3 down).

8. Brush with olive oil and place the filling on top. Transfer the bialys to a peel.

9. Presteam a 450°F/232°C oven. Load the bialys in the oven and steam for 3 seconds. Bake until golden brown but still soft and slightly springy to the touch, 12 to 14 minutes. Vent during the final 10 minutes. Cool completely on racks.



CLOCKWISE FROM TOP RIGHT: *Soft Pretzels (page 204), Bialys with caramelized onions (page 212), Bialys with onions and poppy seeds (page 212), plain Bagel (page 119), sesame seed Bagel (page 119), Cinnamon Raisin Bagel (page 119)*

DAY OF THE DEAD BREAD

MAKES 12 LB/5.44 KG DOUGH. DDT: 75°F/24°C

INGREDIENT	BAKER'S %	U.S.	METRIC
SPONGE			
Bread flour	50%	2 lb 6¼ oz	1.08 kg
Instant dry yeast	1.5%	1¼ oz	40 g
Milk	30.9%	1 lb 7¾ oz	670 g
FINAL DOUGH			
Sponge (above)	82.4%	3 lb 15 oz	1.79 kg
Eggs	33.8%	1 lb 10 oz	740g
Bread flour	50%	2 lb 6¼ oz	1.08 kg
Malt syrup	0.5%	2 tsp	10 g
Salt	2.3%	1¾ oz	50 g
Butter, soft but still pliable	49.5%	2 lb 6 oz	1.08 kg
Sugar	24.8%	1 lb 3 oz	540 g
Lemon zest, puréed	1.5%	1⅛ oz	40 g
Orange zest, puréed	4.5%	3½ oz	100 g
Vanilla extract	0.9%	¾ oz	20 g
Ground cinnamon	0.2%	1½ tsp	3 g
Orange blossom water	0.5%	2 tsp	10 g
BONES DOUGH			
Final dough (above)		2 lb 2½ oz	980 g
Bread flour		10¼ oz	290 g
FINISHING			
Egg Wash (page 1064)		As needed	As needed
Melted butter		As needed	As needed
Vanilla Sugar (page 1080), for rolling		As needed	As needed

1. To prepare the sponge, combine the flour, yeast, and milk and mix with the paddle attachment on low speed for 2 minutes. Ferment for 1 hour.

2. To prepare the final dough, combine the sponge, eggs, flour, malt syrup, and salt with one-third of the butter. Mix with the paddle attachment on low speed for 4 minutes, then on high speed for 4 minutes. Add half of the remaining butter, keeping the dough on the paddle and scraping the bowl often. Add the sugar, lemon and orange zests, vanilla, cinnamon, and orange blossom water in 2 additions. Add the remainder of the butter and mix until fully incorporated.

3. To make the bone dough, remove the indicated weight of the final dough and mix with the bread flour until a homogeneous dough is formed.

4. Ferment the doughs separately for 20 minutes, or until doubled in size. Gently fold over. Ferment for another 20 minutes, or until doubled in size.

5. Divide the final dough into 9-oz/260-g pieces; divide the bone dough into ¾-oz/21-g portions. You will need 4 bones for each loaf.

6. Shape the main dough pieces into tight rounds and roll the bones out to 3-in/8-cm oblongs. Make a hole in the center of each large round. Place on parchment-lined sheet pans. For each loaf, roll out 3 of the bone pieces into long ropes that are the diameter of the loaf, spreading your fingers and pressing them into the ropes so that they take on a wavy appearance. Drape the ropes over the loaves at even intervals so that the round is visually divided into sixths, like a sliced pie. Take a final bone piece for each loaf and round it up into a tight ball. Place an ovenproof ball in the hole in each loaf. Brush the loaves with egg wash. Proof the loaves until doubled in size, another 45 to 60 minutes.

7. Lightly brush the dough with egg wash.

8. Bake in a 365°F/185°C convection oven until golden brown, 20 to 25 minutes. Remove from the oven, brush with melted butter, and roll in vanilla sugar. Cool completely on racks.

CONCHAS

MAKES 24 LB/10.89 KG/DDT: 78°F/26°C

INGREDIENT	BAKER'S %	U.S.	METRIC
SPONGE			
Bread flour	50.0%	5 lb 8 oz	2.5 kg
Milk	46.6%	5 lb 1 oz	2.3 kg
Yeast, instant dry	1.6%	3 oz	80 g
FINAL DOUGH			
Sponge	98.2%	10 lb 12¾ oz	4.9 kg
Bread flour	50%	5 lb 8 oz	2.5 kg
Malt syrup	0.5%	1 oz	30 g
Eggs	17%	1 lb 14 oz	850 g
Salt	2%	3½ oz	100 g
Softened butter	20%	2 lb 3¼ oz	1 kg
Sugar	30%	3 lb 5 oz	1.5 kg
Total Dough Weight	217.7%	24 lb	10.9 kg
Vanilla Concha Topping (page 218) or Chocolate Concha Topping (page 217)		As needed	As needed

1. Prepare the sponge the same day as the final dough. Combine the flour, milk, and yeast and mix on low speed until homogeneous. Increase the speed to high and mix until the dough comes together, about 1 minute. Ferment for 30 minutes.

2. To prepare the final dough, combine the sponge, flour, malt syrup, eggs, salt, and about one-third of the butter. Mix on low speed until homogeneous, about 5 minutes. Increase the speed to high and mix until the dough has reached the intense stage of gluten development, about 2 minutes.

3. Add another one-third of the butter while mixing on high speed, scraping often. Stream in half of the sugar and then add the remaining butter. Stream in the remaining sugar and mix the dough on high until it reaches the intense stage of gluten development.

4. Bulk ferment, covered, until the dough has doubled in size, about 1 hour.

5. Divide the dough into 2 oz/55 g pieces (or if using a dough divider, a 4 lb 8 oz/2 kg press, for 36 pieces). Bench rest for 10 to 15 minutes.

6. Shape the dough into tight rounds and place on a parchment-lined sheet tray in 5 rows of 3. Cover with plastic wrap and place the dough in the refrigerator to retard overnight.

7. Remove the dough from the refrigerator and top with the vanilla concha topping or chocolate concha topping (see page 217 for instructions).

8. Proof for 45 minutes to 1 hour, or as needed, depending on the environment.

9. Load the dough into a 375°F/191°C convection oven and immediately lower the temperature to 350°F/177°C. Bake until the concha is golden brown, about 13 minutes.

10. Place the finished bread on a rack to cool.

CHOCOLATE CONCHA TOPPING

YIELD: 2 LB 3¾ OZ/1.0 KG

INGREDIENT	BAKER'S %	U.S.	METRIC
Cake flour	100%	13 oz	370 g
Confectioners' sugar	80.4%	10½ oz	300 g
Cocoa powder	8.6%	1 oz	30 g
Softened butter	40.3%	5 oz	150 g
Shortening	42.7%	5½ oz	160 g

1. Sift together the flour, confectioners' sugar, and cocoa powder.

2. In a mixer fitted with the paddle attachment, cream together butter and shortening until light and fluffy, about 4 minutes.

3. Add the dry ingredients and mix until homogenous, about 1 minute.

4. Remove from the mixer, and wrap the dough in plastic. Refrigerate until needed.

5. Roll the toppings to ¼-in/6-mm thick and cut with a 4-in/10-cm round cutter. Keep refrigerated until topping is needed.

6. Spray the tops of the conchas with water and gently place rounds onto the dough, pressing slightly to adhere the two.

7. Use a concha cutter to mark the topping.

8. Excess topping can be wrapped and refrigerated until the next use.

CHEF'S NOTE

This topping can be prepared the same day as the final dough and used the following day to finish the conchas.

VANILLA CONCHA TOPPING

YIELD: 2 LB 4½ OZ/1.0 KG

INGREDIENT	BAKER'S %	U.S.	METRIC
Cake flour	100%	14 oz	400 g
Confectioners' sugar	74.9%	10½ oz	300 g
Vanilla extract	8%	1 oz	30 g
Softened butter	19.3%	2¾ oz	75 g
Shortening	56.9%	8 oz	225 g

1. Sift together the flour and confectioners' sugar.

2. In a mixer fitted with the paddle attachment, cream together butter, shortening, and vanilla extract until light and fluffy, about 4 minutes.

3. Add the dry ingredients and mix until homogenous, about 1 minute.

4. Remove from the mixer, and wrap the dough in plastic. Refrigerate until needed.

5. Roll the toppings to ¼-in/6-mm thick and cut with a 4-in/10-cm round cutter. Keep refrigerated until topping is needed.

6. Spray the tops of the conchas with water and gently place rounds onto the dough, pressing slightly to adhere the two.

7. Use a concha cutter to mark the topping.

8. Excess topping can be wrapped and refrigerated until the next use.

CHEF'S NOTE

This topping can be prepared the same day as the final dough and used the following day to finish the conchas.

The flavoring in this dough can be changed to reflect seasonal flavors and ingredients.

PART THREE

BAKING BUILDING BLOCKS

9

PASTRY DOUGHS AND BATTERS

Pastry doughs are the foundation for a wide range of preparations. Pie dough, short dough, and puff pastry are only a few examples. All are made from the same basic ingredients, but different preparation techniques give them vastly different characteristics, making each suitable for different applications. Pastry batters such as crêpe batter or pâte à choux also serve as elemental preparations and are used in countless classical and contemporary desserts.

RUBBED DOUGHS

THE CHARACTERISTIC TEXTURE of rubbed doughs, also known as cut-in doughs, is developed by rubbing together the cold fat and the flour, leaving flakes of fat visible.

Butter, lard, hydrogenated shortening, and other fats may be used in the production of rubbed doughs. All of these fats are solid at room temperature, and when cold have a firm consistency that makes it possible to use them for this method. Of all the fats, butter alone will yield the most flavor, but it is difficult to handle because it has a lower melting point than shortening or lard.

There are two basic types of rubbed doughs: flaky and mealy. The larger the flakes of fat are before the liquid is added, the flakier and crisper the baked crust will be. If the flakes of butter or shortening are rubbed into the dough just until they are about the size of walnut halves, the dough will be what is often referred to as "flaky" pie dough. When the liquid is added, the dough is worked just enough to allow the moisture to be absorbed by the flour and just until the ingredients come together, at which point the dough should be allowed to rest and cool under refrigeration.

Flaky pie dough is best for pies, tarts, and other preparations where the filling is baked in the crust. It is not well suited for preparations where the crust is completely prebaked and allowed to cool and then a liquid filling is added that must set under refrigeration. After baking, the pockets that lend the flaky texture to this type of dough easily allow juices or liquids to leak from the crust, making a mealy crust a better choice for these applications.

If the butter or shortening is more thoroughly worked into the dough, until the mixture resembles coarse meal, the result will be what is sometimes referred to as a "mealy" dough. Mealy pie doughs have a finer texture than do flaky pie doughs. With the fat more evenly interspersed in the flour, its ability to shorten gluten strands present in the dough becomes more apparent, as the resulting dough is very tender. As with flaky pastry dough, mealy dough should be wrapped in plastic wrap and allowed to rest under refrigeration so the butter or other fat will firm and the gluten will relax before the dough is worked and rolled.

Mealy doughs are well suited for all types of pies and tarts, but most particularly for formulas that require a fully baked shell (see "Blind Baking Pie and Tart Shells" in Chapter 15, page 623) filled with a precooked filling, such as a cream, that will have to set under refrigeration before it can be sliced and served. They are also best for custard pies and for creating decorative tops such as lattice.

Always keep rubbed doughs cool during mixing for best results to achieve a flaky final texture. When butter or shortening is more thoroughly incorporated into the dough, resulting in a coarse meal rather than large flakes, the resulting baked dough becomes less flaky but more tender, as the even distribution of fat serves to shorten structure-providing gluten strands in the flour as it bakes.

The basic steps for making rubbed doughs are:

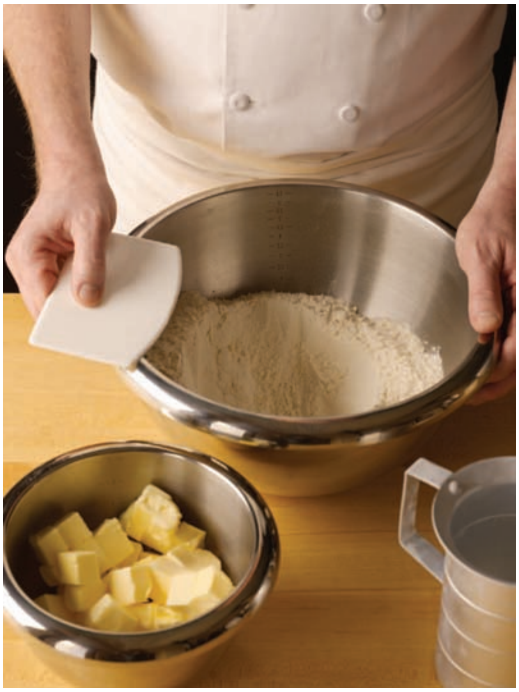
1. Combine the dry ingredients. Pastry and all-purpose flours are, in general, ideal for the rubbed dough method. Cake flour is too high in starch, so it will absorb more water and will produce a dough with a pasty consistency. Bread flour, because of its high protein content, will absorb water quickly and in comparatively great quantities, developing gluten readily and in great amounts. This will make a dough that is tough and elastic. On the other hand, pastry flour and all-purpose flour have the proper balance of starch and protein, with the desired amount of water absorption and gluten development to produce a dough that is both flaky and tender.

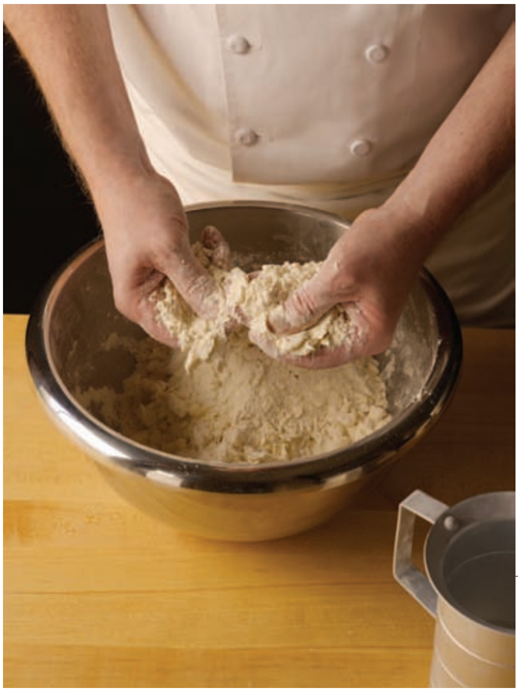
2. Rub the firm fat into the flour. Fat contributes to the development of a flaky texture in pastry doughs. The amount of fat and the way it is added to the other ingredients in a formula have a significant impact on the finished baked good. Leaving the fat in pieces or chunks, rather than combining it thoroughly, gives doughs a flaky texture. When a rubbed dough is baked, the pieces of fat melt to create pockets in the interior of the dough where steam is released from the moisture held in the fat. This steam expands the pockets, which then become set as the dough continues to bake, thus creating a flaky texture in the baked good. The larger the flakes of fat left in the dough, the flakier the baked dough will be.

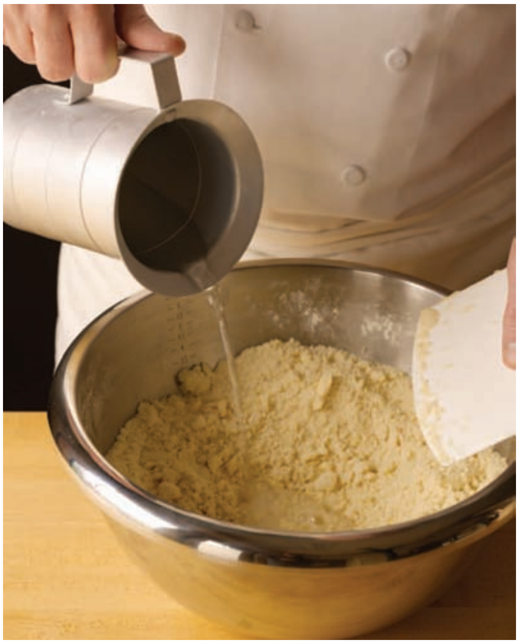
3. Add all the cold liquid at once to the flour-fat mixture and blend the dough quickly but thoroughly. Water is the most common liquid in rubbed dough formulas, but milk or cream may also be used. When substituting milk or cream for water in a rubbed dough formula, decrease the amount of fat to adjust for the fat present in the milk or cream.

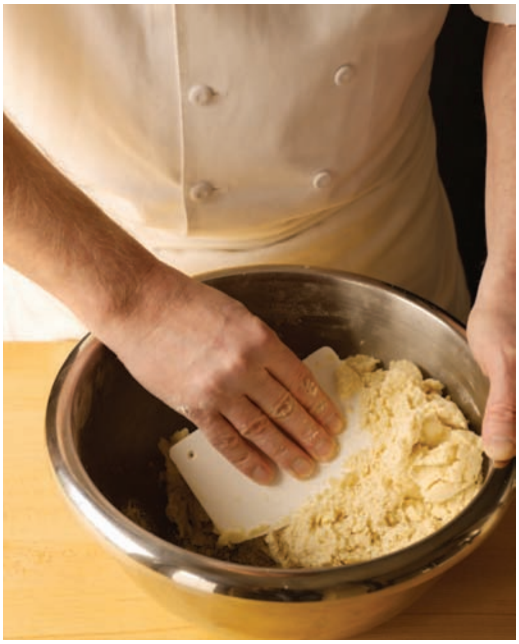
4. Turn out the dough onto a lightly floured work surface.

5. Gather and press it together into a disk or a flat rectangle.









TOP LEFT: *Rubbed dough mise en place*

TOP RIGHT: *Combine the fat into the flour by rubbing the chunks between your fingers to make smaller pieces.*

BOTTOM LEFT: *Add the water all at once to the mixture to form a "shaggy mass."*

BOTTOM RIGHT: *Mix to combine. The finished dough will be rough with visible pieces of fat.*

6. Wrap the dough tightly in plastic wrap and chill it under refrigeration until firm enough to work. The period of rest and chilling before working and rolling is vital to ensure that the fat does not become too soft nor the flour overworked.

Soft fat prevents the separation of the baked dough into layers, and overworked flour can result in a tough, rather than tender, final baked good.

7. Always keep rubbed doughs cool during mixing and when working with them. The ideal working temperature is 35° to 45°F/2° to 7°C. If the dough becomes too warm, the fat may become too soft and absorb into the dough, destroying the layers in the dough.

SHORT DOUGH

SHORT DOUGH CONTAINS a high percentage of fat, which produces a very tender and crumbly crust. If worked excessively, however, a short dough will become tough. Both cake and pastry flour are the most common choices for this type of dough. Short doughs include eggs, either whole eggs or yolks, and sometimes sugar, which contribute to the flavor and color of the dough as well as to its tender texture.

The basic steps for making short doughs are:

1. Combine the sugar and butter and mix only until it forms a smooth paste to ensure even blending. Do not mix vigorously so that air is incorporated.

2. Add the eggs gradually, a few at a time, and blend them in carefully. To prevent the mixture from breaking or curdling, have the eggs and any other liquid ingredients at room temperature, and blend them in carefully.

3. Add the dry ingredients and mix at low speed until just combined. Over mixing will make the dough tough.

4. Turn out the dough onto a lightly floured work surface, shape it into a disk or flat triangle, and wrap tightly in plastic wrap. If the dough appears to be somewhat rough or coarse when it is removed from the mixer, work it gently by hand just until it comes together. Refrigerate for at least 1 hour before using, to allow the dough to firm up and the gluten to relax. The butter becomes soft during the mixing process, making short dough difficult to work with immediately after mixing. Allowing the gluten to relax will create a more tender, less tough baked dough.

CRUMB CRUSTS

CRUMB CRUSTS ARE SIMPLE, flavorful, quick-to-make crusts. They are typically used in two types of preparations: pudding or cream pies and cheesecakes. Graham crackers are most commonly used as the base for crumb crusts, but other types of cookies may be used for different flavors.

The crumbs are sweetened as necessary and blended with butter; sometimes a small amount of egg white is added to help make the crust hold together after baking. The crumb mixture is then pressed into an even layer in the pie or other baking pan and prebaked to evaporate some moisture and make the crust more flavorful and crisp.

Scale the crust into prepared pans and press into an even layer about ¼ in/0.6 cm thick. Crumb crusts should be baked at 350°F/177°C until set and light golden brown, about 7 minutes. Cool the crust completely before filling.

For pudding and cream pies, the filling is cooked, then poured into the cooled baked crust and refrigerated until set. For cheesecakes, the batter is poured into the cooled baked crust and then baked until set.

PÂTE À CHOUX (PRECOOKED BATTER)

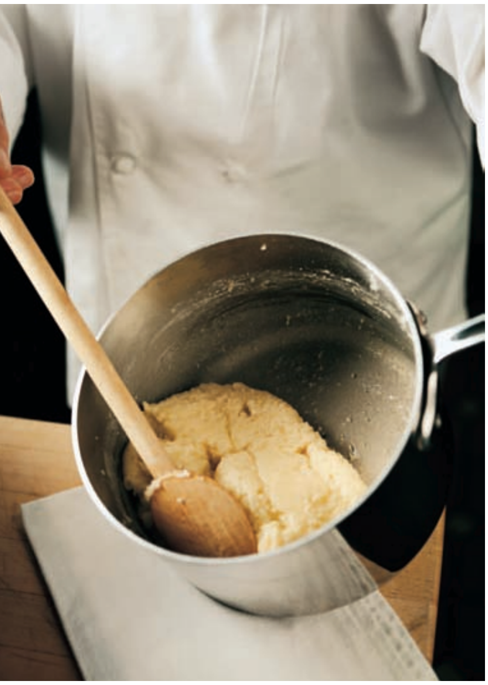
PÂTE À CHOUX IS a cooked batter created through the combination of liquid, fat, flour, and eggs. When finished, it is piped into various shapes that, once baked, expand and dry into crisp, hollow pastry. The basic steps for making pâte à choux are:

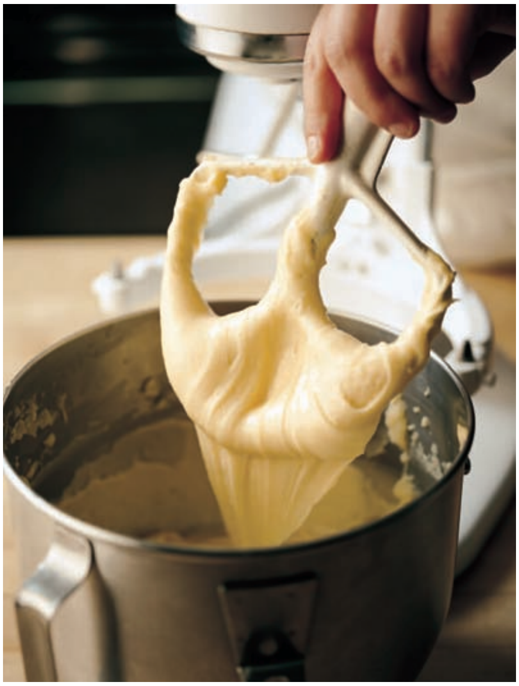
1. Combine the liquid and fat and bring to a rolling boil. Usually either water or milk is used as the liquid in the batter, and the two yield very different results. Milk will cause the pastry to darken more quickly in the oven before it has dried out enough to become crisp; that, along with the solids present in the milk, will produce more tender, flavorful pastry. When water is used, the temperature of the oven can be manipulated, starting with a very high temperature to encourage full expansion, and then a lower temperature to dry out the pastries, creating a fully dried pastry that will be very crisp and light.

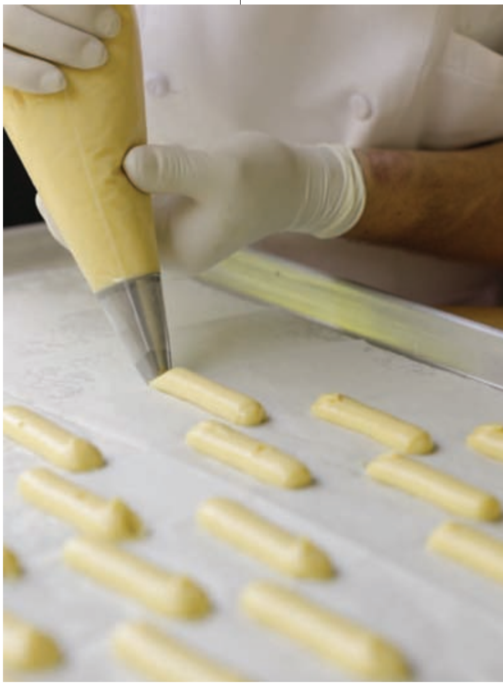
2. Add the flour all at once, stirring constantly to prevent lumps from forming, and continue to cook until the mixture pulls away from the sides of the pan. The type of flour is also important. Flours with a higher percentage of protein are able to absorb more liquid and will allow for the addition of a greater amount of eggs, yielding a lighter finished product. Additionally, a flour with a higher protein content will develop more gluten strands, making a more elastic dough, which will also help create a lighter finished product. For these reasons, bread flour, which has a protein content of 12 to 13 percent, is best. All of the flour must be added to the boiling liquid at once and blended in very quickly to ensure the full hydration of the starch granules in the flour and the formation of a smooth paste. The mixture should be stirred quickly and vigorously. The precooking and agitation of the batter allow for greater moisture absorption, as well as the development of the gluten in the flour, which creates light, crisp pastry.

3. Transfer the mixture to the bowl of a mixer and, using the paddle attachment, mix for a few moments to cool the batter slightly.

4. Add the eggs gradually, in three or four additions, mixing the dough until it is smooth again each time. Scrape the sides and the bottom of the bowl as necessary. The dough should have a pearl-like sheen and be firm enough to just hold its shape when piped.







FROM LEFT TO RIGHT: *As pâte à choux is stirred and cooked, a film starts to develop on the bottom of the pot.*

Properly mixed pâte à choux, after the eggs are fully incorporated

Piping éclairs onto a sheet pan

STRUDEL DOUGH

STRUDEL DOUGH IS a slightly enriched soft dough. Bread flour is used for strudel dough because of its higher protein content, which accounts for the development of the elasticity of the dough that allow sit to be stretched to make thin layers of pastry. The dough is mixed well to develop the gluten and then allowed to rest in a warm place (cold dough has less elasticity and is therefore more difficult to work with). The dough is then stretched until extremely thin and transparent. Commercially made phyllo dough, another thin flaky dough, is often used in place of strudel dough.

LAMINATED DOUGHS

LAMINATED DOUGHS INCLUDE CROISSANT, puff pastry, and Danish. Proper layering (lamination) is vital, as it is the combination of fat and dough in even layers that causes expansion and creates the ultimate flaky texture characteristic of laminated doughs. When the dough is baked, the fat melts, creating pockets where released steam from the moisture in the dough acts to leaven the dough. As the steam leavens the pockets in between the dough layers, causing the product to expand and rise, the remaining fat "fries" the dough so that the air spaces are retained.

Creating the proper number of fat and dough layers is critical to the success of laminated doughs. With too few layers, the steam will escape and the pastry will not rise. Folding the dough too many times can be a problem because the layers of fat and dough merge together as the fat begins to become incorporated into the dough, rather than remaining as separate layers, thus preventing the dough from rising.

Folding may be the most important factor in making a laminated dough, as the distinct layers of fat and dough must be maintained throughout the process. The dough must be rolled out evenly and the corners kept squared throughout the lock-in (the stage at which the roll-in butter is introduced to the dough) and all subsequent folds to ensure proper layering. The basic steps for laminated doughs are:

1. A previously prepared dough (the initial dough) is folded and rolled together with a block of fat called a *roll-in*. To prepare the dough, sift the flours together. Blend in the butter on low speed with a dough hook attachment until pea-size nuggets form.

2. Combine the water and salt; add all at once to the dough and mix on low speed until smooth. Dough that is to be laminated must be mixed carefully. Over mixing can result in too much gluten formation, making the dough elastic and difficult to roll out.

3. Shape the dough into a rough square or rectangle. Transfer to a sheet pan lined with parchment paper, wrap the dough in plastic wrap, and allow it to relax under refrigeration for 30 to 60 minutes. The dough should be gently rolled into the desired shape for the lock-in before it is refrigerated to reduce the amount of manipulation necessary during lock-in and lamination. While the dough is resting, prepare the roll-in fat.

4. To prepare the roll-in, the butter should be worked, either by hand or carefully using a stand mixer and dough hook attachment, until it is smooth and malleable but not overly soft. A number of different types of fats may be used in lamination. However, butter lends the best flavor and mouth feel.

5. Mix the butter and flour (if using) until smooth. A small amount of flour may be added to the butter to make it easier to work with and to absorb excess moisture in the butter. It is important that the fat be completely smooth, as any lumps will tear the dough as it is rolled in, preventing proper layering.

6. Transfer the roll-in to a sheet of parchment paper. Cover with a second sheet and roll into a

LEFT: *It is important that the butter have a smooth, homogeneous consistency before mixing with the flour.*

RIGHT: *Form the butter into a uniform block as the flour is incorporated. It should be half the size of the dough.*

rectangle. Square off the edges, cover with plastic wrap, and refrigerate until firm but still pliable. Do not allow the roll-in to become cold. The temperature of the roll-in is also very important. It should be the same consistency as the dough when the two are rolled together. The butter must not be allowed to become so soft that it begins to ooze from the dough as it is rolled, nor should it be so firm that it could tear the dough or break into bits during rolling. Before use, the roll-in may be allowed to stand at room temperature for a few minutes if it is too hard, or re-refrigerated if it becomes too soft.

7. To lock the roll-in into the dough, turn out the dough onto a lightly floured work surface and roll it into a square or rectangle, keeping the edges straight and the corners squared. The roll-in fat can be added to the dough using one of several methods: envelope, single-fold (see page 228), or three-fold (see page 228). For the envelope method, the dough is rolled into a square or a rectangle. The roll-in is rolled into a smaller square or rectangle, and placed diagonally in the center of the dough so that each corner points to the center of a side of the dough. The corners of the dough are then folded over the fat envelope-style so that they meet in the center.

8. Administer a four-fold. Cover the dough in plastic wrap and allow it to rest for 30 minutes under refrigeration. For a four-fold or book-fold (see page 229), divide the sheet of pastry visually into quarters, and fold the outer quarters into the middle so that their edges meet. Then fold the dough over as if closing a book. This type of fold quadruples the number of layer in the dough each time.

9. Turn the dough 90 degrees from its position before it was refrigerated and roll it out into a rectangle, making sure the edges are straight and the corners are squared. Administer a second fold (three-fold or four-fold). Cover the dough in plastic wrap and allow it to rest for 30 minutes under refrigeration. Repeat this process two more times for a total of four folds, turning the dough 90 degrees each time before rolling and allowing the dough to rest, covered in plastic wrap under refrigeration, for 30 minutes between each fold.

After the roll-in is added to the dough, each subsequent fold is usually either a three-fold or a four-fold. Each time, before folding and rolling the dough, brush any excess flour from its surface. When you fold the dough, the corners should meet squarely and the edges should be straight and perfectly aligned. After each fold, refrigerate the dough to allow it to relax and the butter to chill; the length of time the dough will need to rest will depend in large part on the temperature of the kitchen. For each fold, the dough is turned 90 degrees from the previous one to ensure that the gluten is stretched equally in all directions. Too much stress in one direction will make the dough difficult to roll and cause it to rise unevenly and become misshapen during baking as the gluten contracts.

10. After completing the final fold, wrap the dough in plastic wrap and allow it to rest under refrigeration for 30 minutes before using.

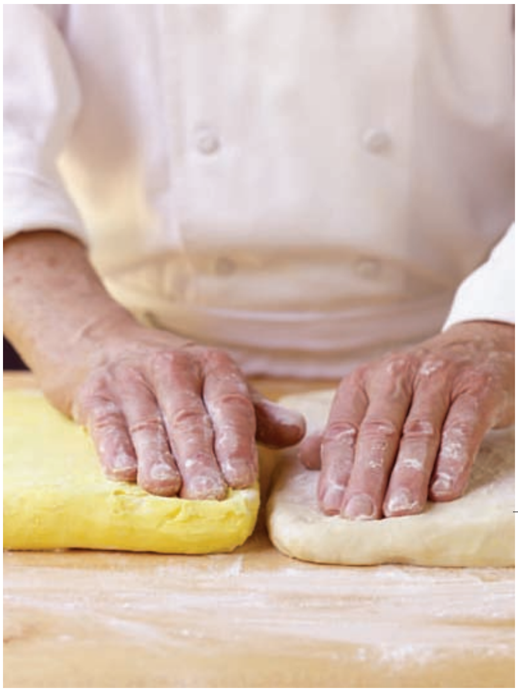
LOCK-IN AND FOLDING

SINGLE-FOLD

In the single-fold method, the roll-in is rolled into a rectangle that is half the size of the dough square or rectangle, and placed on one half of the dough, then the other half of the dough is folded over it and the edges are sealed to completely encase the roll-in fat. To administer a single-fold, divide the sheet of dough visually in half, and fold the dough over itself to form two layers. This type of fold doubles the number of layers in the pastry.

THREE-FOLD

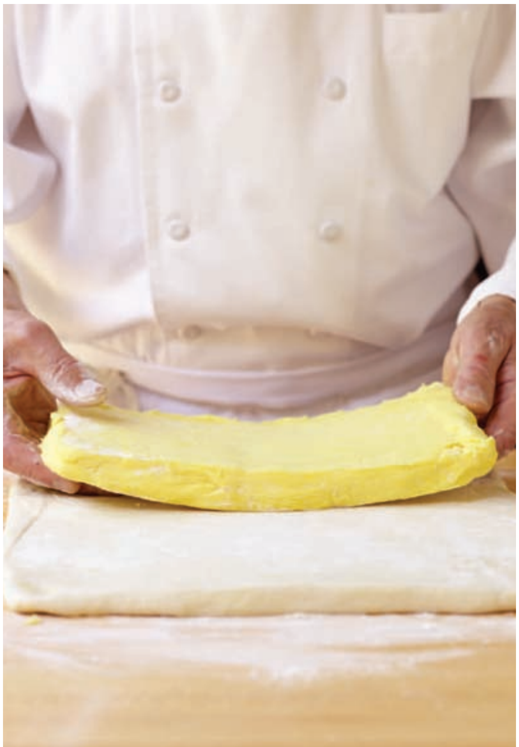
In the three-fold method, the fat is rolled into a rectangle that covers two-thirds of the dough. The third of the dough not covered with the roll-in fat is folded over to cover half of the roll-in, and then the remaining side (or third) is folded over that. The

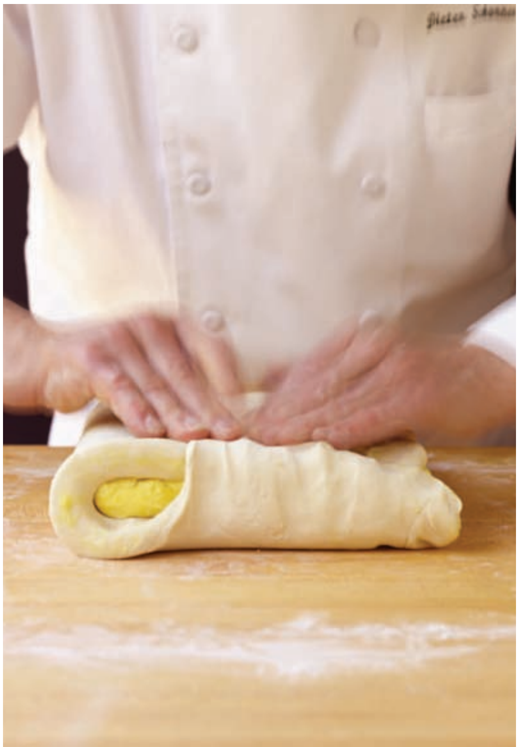


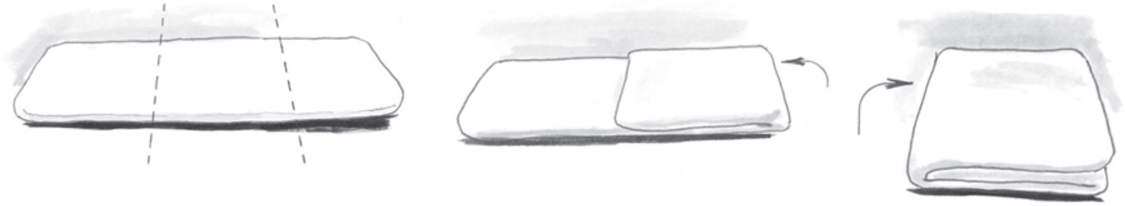
TOP: *Make sure both the butter and the dough are the same consistency before performing the lock-in.*

BOTTOM LEFT: *The butter should be pliable when you place it on the dough.*

BOTTOM RIGHT: *The dough should be uniformly wrapped around the butter and the edges should not be thicker than the lock-in.*







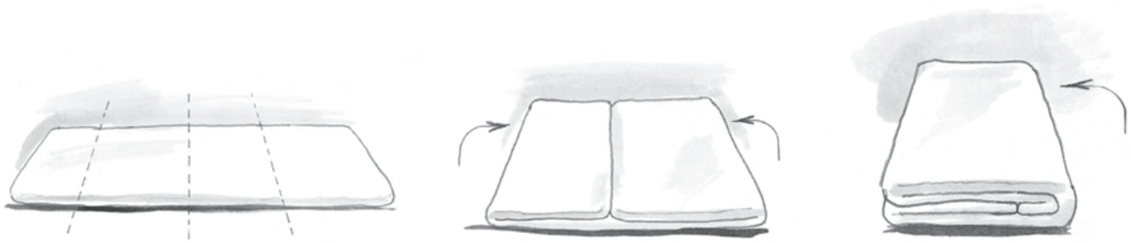
LEFT: *Roll the dough to the proper dimensions and visualize it in thirds.*
CENTER: *Fold one-third of the dough over the center third.*
RIGHT: *Fold the final third over the center. Refrigerate before rolling and folding again.*

edges are then sealed to completely encase the roll-in fat.

Roll the dough to the proper dimensions and visualize it in thirds. Fold one-third of the dough over the center third. Fold the final third over the center. Refrigerate before rolling and folding again. This fold triples the number of layers in the dough each time.

FOUR-FOLD

For a four-fold or book-fold, divide the sheet of pastry visually into quarters, and fold the outer quarters into the middle so that their edges meet. Then fold the dough over as if closing a book. This type of fold quadruples the number of layers in the dough each time.



LEFT: *Roll the dough to the proper dimensions and visualize it in uneven quarters.*
CENTER: *Fold the two ends so that they meet in the center.*
RIGHT: *Fold the ends over to meet precisely. Refrigerate before rolling and folding again.*

INVERSE PUFF PASTRY

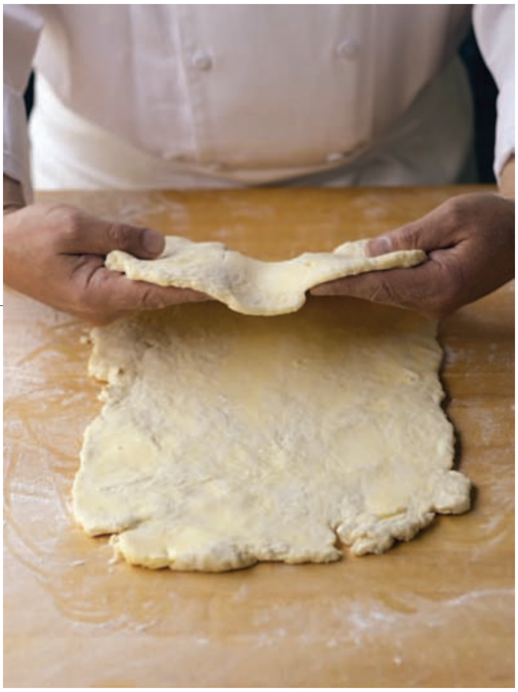
THE SAME RULES APPLY for inverted puff pastry as for all other laminated doughs. For inverted puff pastry, however, the butter layer, rather than the dough, is the outer layer.

BLITZ PUFF PASTRY

BLITZ PUFF DOUGH GETS its name because it is a fast method for producing flaky puff dough and “blitz” means lightning. The trick to making quality blitz dough is that it is very important the dough be rolled thin enough to flatten the butter sufficiently to achieve the “puff” effect when the dough is baked. This dough will not have as even and high a rise as traditional puff dough and should not be used to make vol-au-vents.

LEFT: *With the first three-fold, the large butter chunks are very visible.*

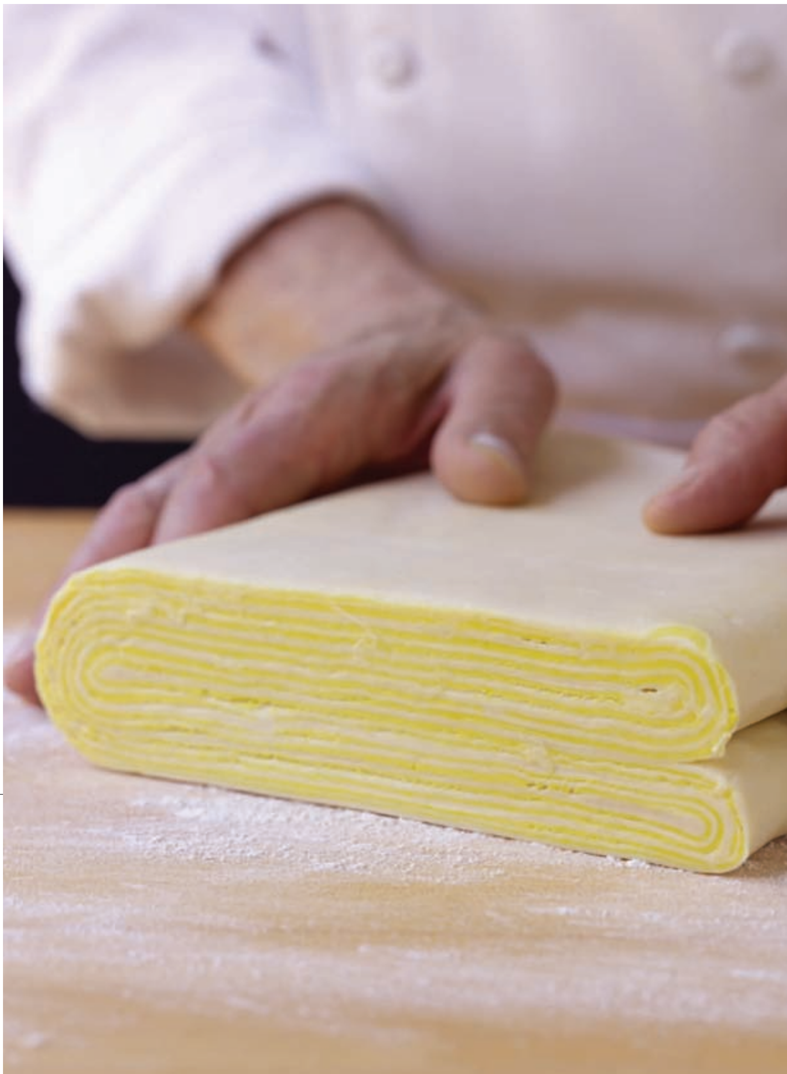
RIGHT: *As the dough is rolled out after the final fold, you can see the smoothness of the final texture.*



STORAGE OF LAMINATED DOUGH

TO PREPARE PUFF PASTRY and other laminated doughs for freezing, and to ease their use when frozen, follow this simple procedure: Roll the dough approximately ¼ in/0.6 cm thick for efficiency's sake. If necessary, cut the dough into smaller sheets the size of a sheet pan or half sheet pan Layer the sheets on a sheet pan, placing a sheet of parchment paper between each one. Wrap the pan tightly in plastic wrap and place in the freezer. (Use the same method for refrigerated storage.)

As you cut puff pastry, you may create scraps, or trim. They can be reserved to be rerolled and used in pastries where a dramatic high, straight rise is not critical. Recommendations for the use of these scraps are the same as for blitz puff pastry; they should not be used for items that require a high and even rise. Layer the scraps on top of each other, keeping them flat to preserve the layers of fat and dough. Then the dough may be rolled and stored under refrigeration or frozen.



Finished puff pastry will have many layers of dough and butter.

3-2-1 PIE DOUGH

MAKES 6 LB/2.72 KG

INGREDIENT	U.S.	METRIC
All-purpose flour	3 lb	1.36 kg
Salt	1 oz	30 g
Butter, cut into pieces, chilled	2 lb	910 g
Cold water	1 lb	450 g

1. Combine the flour and salt in the mixer. Add the butter and blend with the paddle attachment on medium speed until pea-size nuggets form, about 3 minutes. For flaky dough, you are looking for ½- to ¾-in/1.5- to 2-cm pieces of butter. For mealy dough you are looking for almost a coarse cornmeal consistency. Add the water all at once and continue to mix until the dough just comes together.

2. Turn out the dough onto a lightly floured work surface. Scale the dough as desired. Wrap tightly and refrigerate for at least 1 hour before rolling. (The dough can be held under refrigeration for three days or frozen.)

PÂTE BRISÉE

MAKES 4 LB 2 OZ/1.87 KG

INGREDIENT	U.S.	METRIC
Cake flour	2 lb 4 oz	1.02 kg
Salt	¾ oz	20 g
Butter, cubed	1 lb 2 oz	510 g
Water	8 oz	230 g
Eggs	4 oz	110 g

1. Combine the flour and salt in the mixer. Add the butter and blend with the paddle attachment on medium speed until a paste forms, about 4 minutes.

2. Combine the water and eggs. Add the egg and water mixture gradually to the flour while mixing on low speed, and mix until a shaggy mass forms. Tightly wrap the dough with plastic wrap and allow it to rest under refrigeration for 1 hour.

3. Turn out the dough onto a lightly floured work surface. Gather and press it together. Scale the dough as desired. Wrap tightly and refrigerate for at least 1 hour before rolling. (The dough can be held under refrigeration for three to four days, or frozen.)

CHOCOLATE PÂTE SUCRÉE

MAKES 2 LB 3½ OZ/1.01 KG

INGREDIENT	U.S.	METRIC
Sugar	6 oz	170 g
Butter	11½ oz	330 g
Eggs	1	1
Egg yolks	2	2
Pastry flour	15 oz	430 g
Cocoa powder	1 oz	30 g

1. Place the butter and sugar in the bowl of a mixer and cream on low speed for about 3 minutes, or until combined.
2. Add the egg and egg yolks in four additions, scraping down the bowl after each addition.
3. Sift together the flour and cocoa and add all at once on low speed.
4. Cover with plastic wrap and chill overnight.
5. Roll dough out to ⅛ in/0.3 cm.
6. Line 3½-inch/9-cm tart rings. Place tart rings in refrigerator and chill for at least 30 minutes. Line with parchment and add weights.
7. Preheat oven to 350°F/149°C.
8. Blind bake tart rings until browned and cooked through, 8 to 10 minutes.

1-2-3 COOKIE DOUGH

MAKES 6 LB 8 OZ/2.94 KG

INGREDIENT	U.S.	METRIC
Sugar	1 lb	450 g
Butter, soft	2 lb	910 g
Vanilla extract	1 tbsp	15 mL
Eggs, room temperature	6 oz	230 g
Cake flour, sifted	3 lb	1.36 kg

1. Cream together the sugar and butter with the paddle attachment, starting on low speed and increasing to medium speed, scraping down the bowl periodically, until smooth and light in color, about 5 minutes.

2. Combine the vanilla and eggs and add them gradually, scraping down the bowl and blending until smooth after each addition.

3. Turn off the mixer and add the flour all at once. Mix on lows peed until just blended. Do not over mix.

4. Turn out the dough onto a lightly floured work surface. Scale the dough as desired. Wrap tightly and refrigerate for at least 1 hour before rolling. (The dough can be held under refrigeration or frozen.)

VARIATION

1-2-3 COOKIE DOUGH WITH GRAHAM CRACKER CRUMBS *Replace 8 oz/230 g of the cake flour with an equal amount of graham cracker crumbs and add in step 3 with the flour.*

SAVORY SHORT DOUGH

MAKES 4 LB/1.81 KG

INGREDIENT	U.S.	METRIC
Cake flour, sifted	2 lb	910 g
Butter, soft	1 lb 4 oz	570 g
Salt	¾ oz	20 g
Eggs	10 oz	280 g

1. Combine the cake flour, butter, and salt and mix on medium speed with the paddle attachment until combined, about 5 minutes.
2. Add the eggs gradually, a few at a time, and mix until the dough is fully blended.
3. Turn out the dough onto a lightly floured work surface. Scale the dough as desired. Wrap tightly and refrigerate for at least 1 hour before rolling. (The dough can be held under refrigeration or frozen.)

RICH SHORT DOUGH

MAKES 7 LB/3.18 KG

INGREDIENT	U.S.	METRIC
Confectioners' sugar, sifted	1 lb	450 g
Butter, soft	2 lb	910 g
Vanilla extract	1 tsp	5 mL
Lemon zest, grated	1 tsp	3 g
Egg yolks, room temperature	1 lb	450 g
Cake flour, sifted	3 lb	1.36 kg

1. Cream together the sugar and butter with the paddle attachment, starting on low speed and increasing to medium speed, scraping down the bowl periodically, until smooth and light in color, about 5 minutes.
2. Combine the vanilla extract and lemon zest with the egg yolks and add them gradually, scraping down the bowl and blending until smooth after each addition.
3. Turn off the mixer and add the flour all at once. Mix on low speed until just blended. Do not over mix.
4. Turn out the dough onto a lightly floured work surface. Scale the dough as desired. Wrap tightly and refrigerate for at least 1 hour before rolling. (The dough can be held under refrigeration or frozen.)

CHOCOLATE SHORT DOUGH

MAKES 5 LB/2.27 KG

INGREDIENT	U.S.	METRIC
All-purpose flour	2 lb 3 oz	990 g
Dutch-process cocoa powder	3 oz	90 g
Butter, soft	1 lb 8 oz	680 g
Sugar	12 oz	340 g
Vanilla extract	1 tsp	5 mL
Eggs, room temperature	6 oz	170 g

1. Sift together the flour and cocoa powder.

2. Cream the butter and sugar with the paddle attachment, starting on low speed and increasing to medium speed, scraping down the bowl periodically, until smooth and light in color, about 5 minutes.

3. Combine the vanilla and eggs and add them gradually, scraping down the bowl and blending until smooth after each addition.

4. Turn off the mixer and add the dry ingredients all at once, mixing on low speed until just blended. Do not overmix.

5. Turn out the dough onto a lightly floured work surface. Scale the dough as desired. Wrap tightly and refrigerate for at least 1 hour before rolling. (The dough can be held under refrigeration or frozen.)

CORNMEAL SHORT DOUGH

MAKES 8 LB 6 OZ/3.80 KG

INGREDIENT	U.S.	METRIC
All-purpose flour, sifted	2 lb 4 oz	1.02 kg
Cornmeal	1 lb 4 oz	570 g
Salt	1½ tsp	9 g
Butter, soft	2 lb	910 g
Sugar	1 lb 4 oz	570 g
Egg yolks, room temperature	12 oz	340 g
Water, room temperature	4 oz	110 g

1. Combine the flour, cornmeal, and salt.

2. Cream together the butter and sugar with the paddle attachment, starting on low speed and increasing to medium speed, scraping down the bowl periodically, until smooth and light in color, about 5 minutes. Add the egg yolks gradually, a few at a time, scraping down the bowl and blending until smooth after each addition.

3. Turn off the mixer and add the dry ingredients all at once and mix on low speed until just blended. Add the water and blend just until incorporated.

4. Turn out the dough onto a lightly floured work surface. Scale the dough as desired. Wrap tightly and refrigerate for at least 1 hour before rolling. (The dough can be held under refrigeration or frozen.)

ALMOND PASTE SHORT DOUGH

MAKES 4 LB/1.81 KG

INGREDIENT	U.S.	METRIC
Almond paste, broken into pieces	1 lb 4 oz	570 g
Butter, soft	1 lb	450 g
Eggs, room temperature	6 oz	170 g
Cake flour, sifted	1 lb 4 oz	570 g

1. Cream the almond paste and butter together with the paddle attachment, starting on low speed and increasing to medium speed, scraping down the bowl periodically, until smooth and light in color, about 5 minutes. Add the eggs gradually, a few at a time, scraping down the bowl and blending until smooth after each addition.

2. Turn off the mixer and add the flour all at once. Mix on low speed until just blended.

3. Turn out the dough onto a lightly floured work surface. Scale the dough as desired. Wrap tightly and refrigerate for at least 1 hour before rolling. (The dough can be held under refrigeration or frozen.)

ALMOND DOUGH

MAKES 5 LB/2.27 KG

INGREDIENT	U.S.	METRIC
Pastry flour	1 lb 6 oz	620 g
Baking powder	½ oz	14 g
Butter, soft	1 lb 2 oz	510 g
Sugar	1 lb 2 oz	510 g
Vanilla extract	1½ tsp	7.5 mL
Eggs, room temperature	6 oz	170 g
Almonds, finely crushed	1 lb 2 oz	510 g

1. Sift together the flour and baking powder.

2. Cream the butter and sugar with the paddle attachment, starting on low speed and increasing to medium speed, scraping down the bowl periodically, until smooth and light in color, about 5 minutes. Combine the vanilla and eggs and add them gradually, scraping down the bowl and blending until smooth after each addition.

3. Turn off the mixer and add the flour mixture and the almonds all at once. Mix on low speed until just blended. Do not over mix.

4. Turn out the dough onto a lightly floured work surface. Scale the dough as desired. Wrap tightly and refrigerate for at least 1 hour before rolling. (The dough can be held under refrigeration or frozen.)

WALNUT CRUST

MAKES 14 OZ/400 G

INGREDIENT	U.S.	METRIC
All-purpose flour	3½ oz	100 g
Walnuts	3½ oz	100 g
Butter	3½ oz	100 g
Sugar	3½ oz	100 g
Fleur de sel	¼ tsp	0.75 g

1. Grind half of the flour with the walnuts in a food processor to an almond flour–like consistency, about 2 minutes.

2. Cream the butter and sugar together with the paddle attachment on low speed for about 3 minutes. Add the nut-flour mixture all at once along with the rest of the flour. Mix on low speed until just until combined, about 2 minutes.

3. Shape into a log and refrigerate until firm, overnight.

4. Preheat a convection oven to 325°F/162°C.

5. Cut log into slices ¼ inch/0.6 cm thick. Place in oven and bake until the edges are a light golden brown, 7 to 10 minutes.

PECAN CRUMBLE

MAKES 14 OZ/390 G

INGREDIENT	U.S.	METRIC
Butter, room temperature	3½ oz	100 g
Sugar	3½ oz	100 g
Pecans, ground	3½ oz	100 g
All-purpose flour	3½ oz	100 g
Salt	1½ tsp	9 g
Pecans, toasted and chopped	2 oz	60 g

1. Beat together the butter, sugar, pecans, flour, and salt with a paddle attachment on medium speed.

2. Roll out on a parchment-lined sheet pan to ⅑ in/0.3 cm thick. Bake at 350°F/177°C until browned, about 20 minutes.

3. Allow to cool completely. Grind in a food processor to desired consistency. Add the chopped pecans. Store in an airtight container.

LINZER DOUGH

MAKES 4 TORTES (10 IN/25 CM EACH), OR 275 SMALL COOKIES

INGREDIENT	U.S.	METRIC
Butter	1 lb 8 oz	680 g
Sugar	1 lb 2 oz	510 g
Vanilla extract	½ tsp	2.5 mL
Eggs, room temperature	4½ oz	130 g
Cake flour	1 lb 14 oz	850 g
Ground cinnamon	½ oz	14 g
Fine cake crumbs	4 oz	110 g
Baking powder	½ oz	14 g
Hazelnuts, toasted and ground	12 oz	340 g

1. Cream the butter and sugar with the paddle attachment, starting on low speed and increasing to medium speed, until smooth, about 5 minutes.

2. Combine the vanilla and eggs and add them gradually, scraping down the bowl and blending until smooth after each addition.

3. Sift together the flour, cinnamon, cake crumbs, and baking powder. Turn off the mixer and add the dry ingredients all at once, mixing on low speed until just blended. Do not over mix.

4. Add the hazelnuts and mix until just blended.

5. Turn out the dough onto a lightly floured work surface. Scale the dough as desired. Wrap tightly and refrigerate for at least 1 hour before rolling. (The dough can be held under refrigeration or frozen.)

GRAHAM CRACKER CRUST

MAKES 2 LB 2 OZ/960 G

INGREDIENT	U.S.	METRIC
Graham cracker crumbs	1 lb 8 oz	680 g
Light brown sugar	4 oz	110 g
Butter, melted	6 oz	170 g

1. Process the graham cracker crumbs, brown sugar, and butter by hand or using a paddle attachment just until crumbly, about 5 minutes.

2. The crust is ready to be pressed into prepared pans and baked.

SCALING NOTE

Use about 3 oz/90 g per 6-in/15-cm pan and 5 oz/140 g per 8-in/20-cm pan.

PÂTE À CHOUX

MAKES 3 LB/1.36 KG

INGREDIENT	U.S.	METRIC
Milk	8 oz	230 g
Water	8 oz	230 g
Salt	Pinch	Pinch
Butter, cubed	8 oz	230 g
Bread flour	8 oz	227 g
Eggs	1 lb	450 g

1. Bring the milk, water, salt, and butter to a boil over medium heat, stirring constantly. Once the butter has melted, add the flour all at once and stir vigorously to combine. Continue to stir until the mixture forms a mass and pulls away from the sides of the pan, about 3 minutes.

2. Transfer the mixture to a mixer fitted with the paddle attachment and beat briefly on medium speed. Add the eggs 2 at a time, beating until smooth after each addition and checking the consistency of the dough. (For more on this, see the text on page 225.) The dough should have a pearl-like sheen and be firm enough to just hold its shape when piped.

3. The pâte à choux is ready to be piped and baked (see "Piped Pastries" in Chapter 18, page 767).

CHEF'S NOTES

For a drier and lighter pâte à choux, substitute an equal part of water for the milk.

For a shiny finish, egg wash the pâte à choux prior to baking.

Flour may be increased up to 12 oz/340 g for a crisper shell.

VARIATION

CHOCOLATE PÂTE À CHOUX *Substitute cocoa powder for 2 oz/60 g of the flour and add 1½ oz/ 40 g sugar.*

CRÊPES

MAKES 45 TO 50 CRÊPES

INGREDIENT	U.S.	METRIC
Milk	1 lb 8 oz	680 g
Heavy cream	12 oz	340 g
Eggs	1 lb 2 oz	510 g
Vegetable oil	1 oz	30 g
Sugar	1½ oz	40 g
Salt	Pinch	Pinch
Flavoring (optional; see Chef's Note)	As needed	As needed
Bread flour	1 lb 2 oz	510 g
Butter, for cooking	As needed	As needed

1. Blend the milk, cream, eggs, oil, sugar, and salt in a bowl. Add the flavoring, if using. Add the flour and whisk until evenly blended.

2. Strain the batter through a fine-mesh sieve. Let the batter rest under refrigeration for at least 30 minutes or overnight.

3. Melt a small amount of butter in a crêpe pan. Ladle just enough crêpe batter into the pan to cover the surface, rotating the pan to facilitate the spread of the batter over its surface as it is being ladled in.

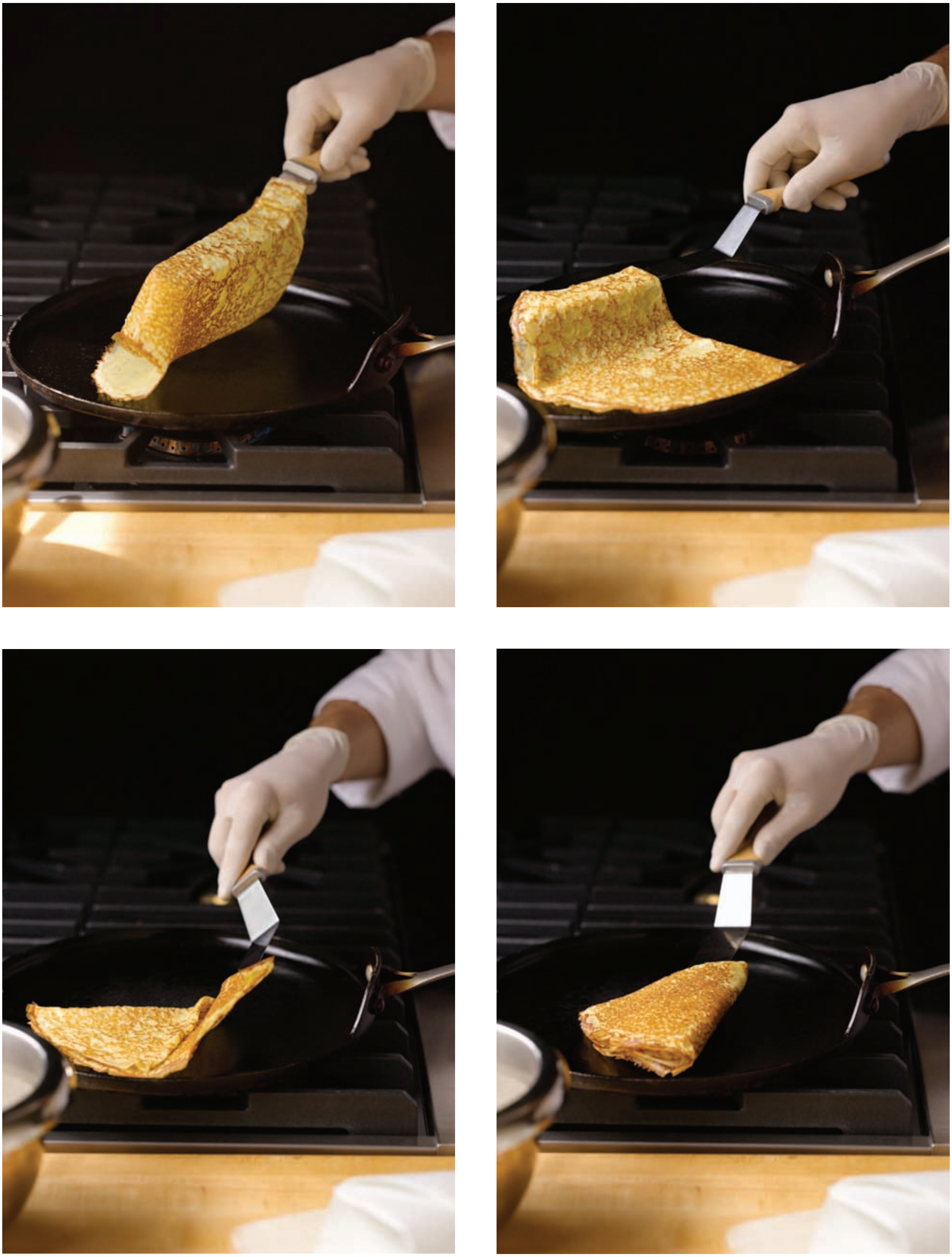
4. Cook for about 2 minutes on each side, just until light golden brown. Transfer to a plate and layer between waxed paper. Cover the stack of finished crêpes with plastic wrap and refrigerate or freeze for later use.

CHEF'S NOTE

Examples of flavorings are Grand Marnier, vanilla, grated citrus zests, and mint.

LEFT: *Ladle the batter into the pan, quickly swirling to evenly coat the surface.*

RIGHT: *Allow the crêpe to brown evenly before turning.*



TOP LEFT: *Gently pick up the crêpe using a spatula.*

TOP RIGHT: *Flip the crêpe and briefly cook on the other side.*

BOTTOM LEFT: *Fold the crêpe into quarters.*

BOTTOM RIGHT: *The finished crêpe can be garnished and served.*

STRUDEL DOUGH

MAKES 1 LB 11¾ OZ/790 G

INGREDIENT	U.S.	METRIC
Bread flour	1 lb	450 g
Salt	1½ tsp	9 g
Water	13 oz	370 g
Vegetable oil	2½ oz	70 g
Vegetable oil, for coating	As needed	As needed

1. Sift together the flour and salt. Transfer to the mixer. Add the water and oil and blend on low speed using a dough hook attachment until just blended. Mix on high speed until the dough is smooth, satiny, and very elastic, about 10 minutes.

2. Turn out the dough onto a work surface and gather it into a ball. Rub it with oil and wrap in plastic wrap. Let the dough rest at room temperature for 1 hour, or refrigerate it overnight before using. Allow the dough to come to room temperature before stretching. (See Apple Strudel, page 664.)

BUTTER PUFF PASTRY DOUGH

MAKES 6 LB 8 OZ/2.95 KG

INGREDIENT	U.S.	METRIC
DOUGH		
Bread flour	2 lb	910 g
Pastry flour	8 oz	230 g
Salt	1 oz	30 g
Butter, soft	8 oz	230 g
Water, cold	1 lb 2 oz	510 g
ROLL-IN		
Butter, malleable (60°F/16°C)	2 lb 4 oz	1.02 kg
Bread flour	4 oz	110 g

1. To prepare the dough, place the flours, salt, butter, and water in the mixer and blend on low speed with the dough hook attachment until a smooth dough is formed. Shape the dough into a rough rectangle. Line a sheet pan with parchment paper and dust the paper lightly with flour.

Transfer the dough to the sheet pan, wrap in plastic wrap, and refrigerate for 30 to 60 minutes.

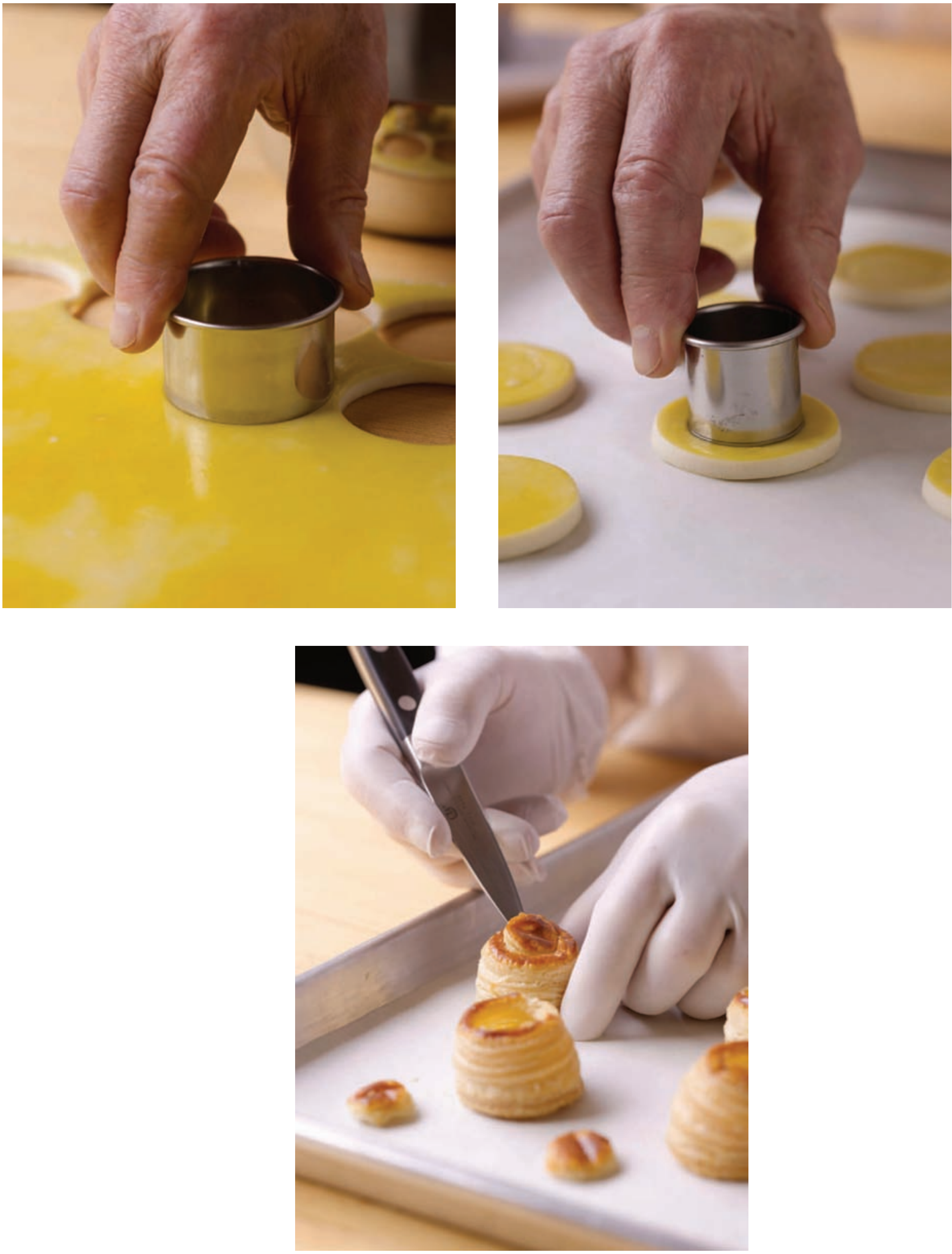
2. To prepare the roll-in, blend the butter and flour on low speed with the dough hook attachment until smooth, about 2 minutes. Transfer to a sheet of parchment paper. Form into a rectangle ½ in/1 cm thick. Cover with plastic wrap. Refrigerate until firm but still malleable. Do not allow the roll-in to become hard (see "Laminated Doughs," step 5, page 226).

3. To lock the roll-in into the dough, turn out the dough onto a lightly floured work surface and roll it into a rectangle twice the size of the roll-in, keeping the edges straight and the corners squared. Administer a lock-in (see step 7, page 227).

4. Administer a four-fold (see page 229). Cover the dough with plastic wrap and allow it to rest for 30 to 45 minutes under refrigeration.

5. Turn the dough 90 degrees from its position before it was refrigerated and roll out into a rectangle 16 by 24 in/41 by 61 cm, making sure the edges are straight and the corners are squared. Administer a three-fold. Cover the dough in plastic wrap and allow it to rest under refrigeration for 30 minutes. Repeat this process two more times for a total of two four-folds and two three-folds, turning the dough 90 degrees each time before rolling and allowing the dough to rest, covered in plastic wrap, under refrigeration for 30 minutes between each fold.

6. After completing the final fold, wrap the dough in plastic wrap and allow it to rest under refrigeration for 30 minutes before using.



FROM LEFT TO BOTTOM: *Cut the egg-washed semifrozen puff pastry using small circle cutters.*

Dip a slightly smaller cutter into warm water and score the circles, cutting almost all the way through the dough.

When the vol-au-vents have cooled slightly, use a paring knife to remove the cut centers.

INVERSE PUFF PASTRY

MAKES 11 LB 13 OZ/5.36 KG

INGREDIENT	U.S.	METRIC
WATER DOUGH		
Bread flour	3 lb	1.36 kg
Salt	1½ oz	40 g
Water	1 lb 12 oz	790 g
Butter, soft	8 oz	230 g
BUTTER DOUGH		
Butter, cold	4 lb 8 oz	2.04 kg
Cake flour	2 lb	910 g

1. To prepare the water dough, combine the flour, salt, water, and butter on medium speed with the dough hook attachment until completely blended, about 8 minutes.

2. Form the dough into a rough rectangle 8 by 24 in/20 by 61 cm and transfer it to a parchment-lined sheet pan. Press the dough into the sheet pan, wrap it tightly in plastic wrap, and let it relax under refrigeration for 30 to 60 minutes.

3. To prepare the butter dough, blend the butter and flour on high speed with the dough hook attachment until smooth, about 2 minutes. Transfer the dough to a sheet of parchment paper.

   Cover with a second sheet and roll into a rectangle 16 by 24 in/41 by 61 cm. Square off the edges using your hands or the rolling pin, cover with plastic wrap, and refrigerate until firm but still pliable.

4. To lock the water dough into the butter dough, turn the butter dough out onto a lightly floured work surface. Place the water dough on half of the butter dough rectangle and fold the butter dough over to encase the water dough. Press the edges together to seal. Turn the dough 90 degrees and roll out into a rectangle 16 by 24 in/41 by 61 cm, making sure the edges are straight and the corners are squared.

5. Administer a four-fold (see page 229) and roll out to the same dimensions as in step 4.

6. Administer a second four-fold and roll out to the same dimensions as in step 4. Cover the dough in plastic wrap and allow it to rest for 1 hour under refrigeration.

7. Make two more book folds, resting the dough between folds for a total of four four-folds, refrigerating and turning the dough 90 degrees each time before rolling. After completing the final fold, wrap the dough in plastic wrap and allow it to firm under refrigeration for at least 2 hours. (The dough can be held under refrigeration or frozen.)

BLITZ PUFF PASTRY

MAKES 5 LB/2.27 KG

INGREDIENT	U.S.	METRIC
All-purpose flour	2 lb	910 g
Salt	¾ oz	20 g
Butter, 1-in/3-cm cubes, chilled	2 lb	910 g
Water, cold	1 lb	450 g

1. Combine the flour and salt in the mixer. Add the butter and toss with your fingertips until the butter is coated with flour. Add the water. Mix on low speed with the dough hook attachment until the dough forms a shaggy mass.

2. Place the dough on a lightly floured work surface and roll out into a rectangle ½ in/1 cm thick and approximately 12 by 30 in/30 by 76 cm.

3. Administer a three-fold (see page 228). Roll out the dough to the same dimensions as before, and administer a four-fold (see page 229).

4. Repeat this process two more times for a total of three four-folds, refrigerating and turning the dough 90 degrees each time before rolling. After completing the final fold, wrap the dough in plastic wrap and allow it to firm under refrigeration for at least 30 minutes before using. (The dough can be held under refrigeration or frozen.)

CHEF'S NOTE

Resting between folds will tend to give you better layers, yielding a product closer to traditional puff pastry.

VARIATION

PALMIERS *To make palmiers, liberally dust a work surface with granulated sugar. Place the puff pastry on the work surface, dust the top with more granulated sugar, and roll to a rectangle that is 8 by 24 in/19 by 56 cm and ⅛ inch/3 mm thick. As you are rolling, apply more granulated sugar as necessary to prevent the dough from sticking to the rolling pin or the work surface.*

Mark the center of the dough lengthwise and roll each of the ends to the center. Chill the dough until very firm. Cut the roll crosswise into slices ½ inch/1 cm thick. Gently flatten each slice with a rolling pin.

Bake on parchment-lined sheet pans in a preheated 450°F/232°C oven. Bake palmiers 6 to 8 minutes, until golden brown. Transfer to a cooling rack and cool completely.

CROISSANT DOUGH

YIELD: 11 POUNDS/4.99 KG

INGREDIENT	U.S.	METRIC
DOUGH		
Whole milk	3 lb	1.36 kg
Bread flour	4 lb 8 oz	2.04 kg
Instant dry yeast	¾ oz	20 g
Salt	1¾ oz	50 g
Sugar	7 oz	200 g
Butter, soft	7 oz	200 g
ROLL-IN		
Butter, cold	2 lb 8 oz	1.13 kg

1. To prepare the dough, place the milk, flour, yeast, salt, sugar, and butter in the mixer, making sure the butter is pliable. Mix 4 minutes at low speed with the paddle attachment, scraping the bowl periodically. Mix an additional 2 minutes at high speed.

2. Turn out the dough onto a lightly floured surface. Cover the dough and ferment at 75°F/24°C until doubled in volume, about 2 hours.

3. Fold over the dough and spread it into a rectangle 12 by 16 in/30 by 41 cm on a parchment-lined sheet pan. Wrap to cover tightly and retard in the refrigerator overnight.

4. Prepare the roll-in butter by pounding it with a rolling pin to make it pliable. Work to half the size of the dough; wrap and refrigerate overnight.

5. Again, make the roll-in butter pliable by pounding with a rolling pin.

6. Lock in the butter (see page 228). Make sure the edges are straight and the corners are squared.

7. Immediately administer a four-fold (see page 229). Wrap the dough in plastic wrap and let it rest in the refrigerator for 30 minutes.

8. Administer a three-fold (see page 228). Wrap the dough in plastic wrap and let it rest in the refrigerator for 30 minutes.

9. Administer a final three-fold. Wrap the dough in plastic wrap and place it in the freezer for 2 hours. Refrigerate before shaping and baking.

DANISH DOUGH

MAKES 10 LB 8 OZ/4.76 KG

INGREDIENT	U.S.	METRIC
DOUGH		
Bread flour	4 lb	1.81 kg
Sugar	7¼ oz	210 g
Instant dry yeast	1 oz	30 g
Salt	1 oz	30 g
Butter, soft	6 oz	170 g
Eggs	13 oz	370 g
Milk	1 lb 12 oz	790 g
ROLL-IN		
Butter, cold	3 lb	1.36 kg

1. To prepare the dough, blend the flour, sugar, yeast, salt, butter, eggs, and milk on lows peed with the dough hook attachment, about 2 minutes. Increase to medium speed and mix for an additional 4 minutes.

2. Turn out the dough onto a lightly floured surface. Cover the dough and ferment at 75°F/24°C until doubled in volume, about 2 hours.

3. Fold over the dough and spread it into a rectangle 12 by 16 in/30 by 41 cm on a parchment lined sheet pan. Wrap the dough tightly with plastic wrap and let it rest overnight or for 8 hours under refrigeration to completely relax the gluten.

4. Using a rolling pin, pound out the roll-in butter to make it pliable and lump-free. Shape it into a rectangle 8 by 24 by ½ in/20 by 61 by 1 cm. Chill the butter slightly.

5. To lock the roll-in into the dough, turn out the dough onto a lightly floured work surface and roll it into a rectangle 16 by 24 by ½ in/41 by 61 by 1 cm, keeping the edges straight and the corners squared. Place the roll-in on half of the dough rectangle. Fold the remaining half of the dough over the roll-in. Seal the edges, turn the dough 90 degrees, and roll into a rectangle 16 by 24 by ½ in/41 by 61 by 1 cm, making sure the edges are straight and the corners are squared.

6. Administer a four-fold (see page 229). Cover the dough in plastic wrap and allow it to rest for 30 minutes under refrigeration.

7. Turn the dough 90 degrees from its position before it was refrigerated and roll into a rectangle 16 by 24 by ½ in/41 by 61 by 1 cm thick, making sure the edges are straight and the corners are squared. Administer a three-fold (see page 228). Cover the dough in plastic wrap and let it to rest for 30 minutes under refrigeration. Repeat this process one more time for a total of two three-folds.

8. After completing the final fold, wrap the dough in plastic wrap and allow it to rest under refrigeration for at least another 30 minutes before using. (The dough can be held under refrigeration or frozen.)

FIG NEWTON DOUGH

MAKES 7 LB 14 OZ/3.57 KG

INGREDIENT	U.S.	METRIC
Dried figs	15 oz	430 g
Golden raisins	15 oz	430 g
Sliced almonds	15 oz	430 g
Cake flour	1 lb 4 oz	570 g
Baking soda	1 tbsp	15 g
Butter	1 lb 8 oz	680 g
Sugar	1 lb	450 g
Salt	1 tsp	6 g
Vanilla extract	1 tbsp	15 mL
Eggs	4 oz	110 g
Milk	2 oz	60 g
Oats	15 oz	430 g

1. Finely chop the figs, raisins, and almonds.

2. Sift together the flour and baking soda.

3. Cream the butter, sugar, salt, and vanilla on medium speed with the paddle attachment, until smooth, about 5 minutes. Add the eggs one at a time, making sure each addition is fully incorporated before adding more. Scrape down the sides of the bowl as needed. Blend in the milk. Add the sifted dry ingredients slowly, mixing on low speed just until combined. Add the fruit-nut mixture and the oats and mix on low speed to combine.

4. Turn out the dough onto a lightly floured work surface. Scale the dough as desired. The dough is ready to roll and fill or may be wrapped tightly and refrigerated for up to 1 week.

CHOCOLATE BEIGNETS WITH TRUFFLES

MAKES 40

INGREDIENT	U.S.	METRIC
CHOCOLATE BEIGNET TRUFFLES		
Heavy cream	4½ oz	130 g
Glucose	1½ oz	40 g
Bittersweet chocolate, chopped	5 oz	140 g
Truffle shells	40	40
Chocolate, melted	As needed	As needed
CHOCOLATE BEIGNETS		
Bread flour	9½ oz	270 g
Sugar	6½ oz	180 g
Cocoa powder	3 oz	90 g
Baking powder	1¼ tsp	5 g
Salt	1 tsp	6 g
Eggs	7 oz	200 g
Canola oil	1½ oz	40 g
Milk	8½ oz	240 g
Vanilla extract	1 tbsp	15 mL
All-purpose flour	As needed	As needed

1. For the truffles: Bring the cream and glucose to a simmer. Pour it over the chopped chocolate. Stir the mixture to make a ganache and allow it to cool to room temperature.

2. Fill half of the truffle shells to the top, leaving just enough room so the top can be sealed with chocolate. Let set under refrigeration for at least 1 hour.

3. Place melted chocolate in a piping bag and pipe a small ring of chocolate along the edges of unfilled truffle shells.

4. Place the unfilled truffle shells on top of the filled truffle shells. Reserve until needed.

5. For the beignets: Sift together the bread flour, sugar, cocoa, baking powder, and salt through a fine-mesh drum sieve into the bowl of a mixer. Mix on low speed until combined.

6. Whisk together the eggs, oil, milk, and vanilla in a large bowl until homogeneous. Add the liquid ingredients to the dry ingredients and mix until a batter is formed.

7. Let the batter rest overnight in an airtight container under refrigeration.

8. Coat the truffles in all-purpose flour, then dip into the batter. Fry at 350°F/175°C until golden brown. Serve immediately.

10

QUICK BREADS AND CAKES

Quick breads and cakes are served as breakfast pastries or simple desserts. They are also "foundation preparations" used for assembled cakes and tortes, including wedding and other special-occasion cakes. The pastry chef uses seven basic mixing methods—blending; creaming; two-stage; cold, warm, and separated foaming; and combination—to prepare all of these.

BASIC PRINCIPLES OF QUICK BREADS AND CAKES

THERE ARE CERTAIN RULES that apply to the preparation of any cake regardless of the mixing method used. For all cakes, it is important to sift the dry ingredients together both to remove lumps and to blend the dry ingredients evenly, which will in turn help to ensure a fully combined batter with minimal mixing time. A short mixing time is an important factor, as gluten development is undesirable. Another asset of sifting the dry ingredients is that it will evenly distribute the leavener when used. Quick breads are typically chemically leavened; those leaveners, which provide their structure, must be evenly distributed to ensure uniform texture and crumb.

All ingredients should be at room temperature before they are combined. Ingredients that are too cold may cause the batter to separate. Usually liquids should be added incrementally to a batter to ensure full hydration and complete incorporation into the dry ingredients.

In nearly all mixing methods used for quick breads and cakes, the development or introduction of air cells into the batter is very important to the process. In creamed batters this is achieved as the fat and sugar are creamed together, while in foamed cakes the air cells are developed as the eggs are beaten and folded into the batter. Regardless of the method of development and incorporation, air cells facilitate the leavening of a product and are important to the proper development of structure and crumb during baking. If air cells are not fully developed, the resulting product will lack leavening and have a dense, coarse crumb.

PAN PREPARATION

PANS ARE LINED WITH parchment paper to ease the process of removing a baked product from the pan. For creamed or foamed batters that must be spread rather than poured, it is important to apply a thin film of butter or other fat to the pan before placing the parchment in the base of the pan. The fat will keep the paper stationary while the batter is spread. This is particularly important when using large pans. The sides of the pan should also be greased and lightly floured, or greased with pan grease (page 1064), which already contains a measure of flour. Pans used for sponge cakes should be lined with parchment but the sides of the pans should remain untreated so that the sponge cake may pull itself up the pan.

Angel food cakes require no pan preparation. The full rise of this cake partially depends on the batter being able to cling to the side of the pan as it rises during baking. Angel food cakes should also have no treatment to the bottom of the pans, as they are cooled upside down to facilitate removal and to help them retain their height and inner structure after cooling.

Pans should be filled approximately three-quarters full with batter, unless otherwise specified in the formula's method. This should allow sufficient room for the product to rise during baking.

COOLING QUICK BREADS AND CAKES

AFTER REMOVAL FROM the oven, quick breads and cakes should be allowed to cool slightly in the pan before unmolding. To remove a cake or quick bread from the pan, you may need to run a small knife or metal spatula between the cake and the pan. Press the tool to the pan so as to not cut or damage the item in any way. Invert the pan onto a wire rack, tap lightly, and lift the pan gently to release. Peel the parchment paper from the bottom of the cake to allow steam to escape. Items must cool completely before they are filled, iced, glazed, or otherwise decorated.

The pans for angel food cakes receive no treatment, which can make the cakes difficult to unmold. However, this type of cake is cooled upside down because if the pan is untreated you will most likely need to run a metal spatula around the edge.

THE BLENDING MIXING METHOD

THE BLENDING METHOD consists of making two mixtures, one with the wet ingredients and one with the dry, then combining the two together.

1. Sift the dry ingredients together. All-purpose or pastry flour is used for most items made by this method because of their moderate protein content. Special flours such as cornmeal or whole wheat flour may replace some or all of the white wheat flour in a given formula to add flavor and develop a different texture. The flour should be sifted together with the other dry ingredients, such as baking soda, baking powder, sugar, salt, cocoa, and ground spices.

   It is important to sift the dry ingredients, as sifting removes lumps and incorporates all ingredients together. Thoroughly mixing the dry ingredients also ensures that the leavening agent will be evenly distributed in the mixture. Sifting will ultimately help to create a fully combined batter needing minimal mixing time.

2. Add the wet ingredients to the dry ingredients all at once and blend, using a mixer or by hand, just until the dry ingredients are evenly moistened. Mixing these batters as briefly as possible ensures a light, delicate texture. Over-mixed batters may develop too much gluten and the resulting item will not have the desired fine, delicate texture. Scrape the bowl down once or twice to mix the batter evenly.

   Cream, milk, buttermilk, water, and even watery vegetables like zucchini all add moisture to a baking formula.

   Fats shorten developing gluten strands, which helps to create a tender texture in the baked good. Solid fats like butter or shortening are most often melted for this method so they can be blended with the other liquid ingredients. All ingredients should be at room temperature before being added, as those that are too cold may cause the batter to separate.

LEFT: *For the blending method, the combined wet ingredients are added to the combined dry ingredients.*

RIGHT: *A properly mixed dough or batter should be uniform in color and texture throughout. (Cream Scones, page 271, shown here.)*

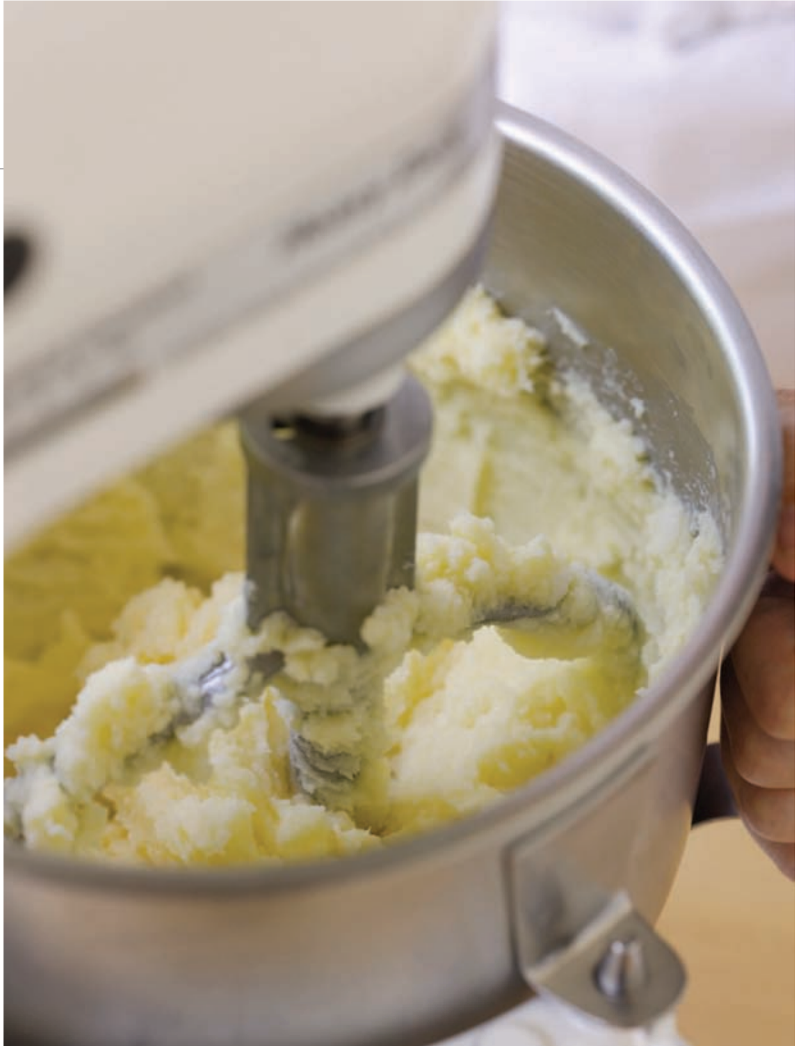
THE CREAMING MIXING METHOD

MUFFINS, CAKES, QUICK BREADS, cookies, and other baked goods made with the creaming method develop their light and airy structure through the incorporation of air during mixing and by use of chemical leaveners. For the creaming method, first the fat and sugar are "creamed" or blended until very smooth and light. Then the eggs are added, and finally the sifted dry ingredients are added in one to three additions; if there is any liquid, the dry ingredients and liquid are added alternately, starting and ending with the dry ingredients. It is important that ingredients for a creamed batter or dough are at room temperature and the fat (butter, shortening, nut paste, etc.) is soft before beginning to mix.

1. Mix together the fat and sugar on medium speed with the paddle attachment, scraping down the sides and bottom of the bowl occasionally as you work to ensure all the fat is blended evenly. Cream the fat and sugar until the mixture is pale in color and light and smooth in texture; when the butter and sugar have this appearance, it indicates that a sufficient amount of air has been incorporated into the mixture. If the ingredients are not sufficiently creamed, the final product will be dense and lack the light, tender qualities characteristic of creamed baked goods. Over creaming can cause over aeration of the product. This can result in excess spreading and may also cause the product to fall because it is unable to support its weight. There are formulas made by the creaming method, however, such as some cookies, where minimum air incorporation is desirable. In these cases the butter and sugar are blended for a shorter amount of time, just until the mixture is smooth.

2. Once the butter and the sugar are properly creamed, the eggs should be added gradually and in 3 to 4 stages; mix until fully incorporated and scrape down the bowl after each addition. Scraping down the bowl is important to develop a completely smooth emulsified batter. Adding the eggs in batches will help to prevent the batter from separating. Blending eggs into the butter-sugar mixture

When you begin to cream, the texture will not be homogeneous, and the sugar will not be dissolved.



TOP : *As the mixture is creamed, the sugar dissolves and the mixture becomes lighter in color and texture.*

BOTTOM: *Add the eggs gradually to ensure they are mixed in completely. This also helps to prevent the mixture from breaking.*

TOP: *Add the dry ingredients all at once.*

BOTTOM: *Mix just to combine. Overmixing can result in a tough product.*

creates an emulsion (for more about emulsions, see page 72). The more eggs added, the more difficult it becomes to sustain the emulsion, and the mixture can begin to separate, developing a curdled or broken appearance. Using eggs at room temperature or warming the eggs slightly (not above 80°F/27°C) when an unusually large amount is to be added will help to emulsify and fully blend the mixture. If the mixture should separate, continue to mix until it becomes smooth again. However, sometimes this curdled appearance is unavoidable because of the ratio of eggs to fat. In these instances, blend in the eggs to create as smooth a mixture as possible, and when the dry ingredients are added, make sure to blend to a smooth consistency.

3. The sifted dry ingredients are generally added in one of two ways: all at once, or alternating with the liquid ingredient (milk, juice, etc.). When adding the dry and liquid ingredients alternately, add one-third of the dry ingredients, then about one-half of the liquid ingredients; mix until smooth and scrape down the bowl after each addition. Repeat this sequence until all of the dry and liquid ingredients have been added. Increase the speed and beat the batter just until it is evenly blended and smooth. Sometimes, but not often, the liquid may be added to the creamed mixture immediately after the eggs. This is done only when the amount of liquid is very small, as it is likely to cause the creamed mixture to begin to separate. It is difficult to get a creamed mixture to accept a large amount of liquid. Regardless of the method of addition, after adding the dry ingredients, mix the dough or batter minimally, or just until incorporated. Excessive mixing will develop gluten, which would toughen the dough or batter and, therefore, the final product.

4. Add any remaining flavoring or garnishing ingredients, mixing or folding until they are just incorporated.

The finished batter is poured into prepared pans.

THE TWO-STAGE MIXING METHOD

THIS MIXING METHOD was designed to be used when making high-ratio cakes. Containing a higher proportion of sugar and emulsifiers than other cakes, a high-ratio cake is one in which the weight of the sugar is equal to or greater than the weight of the flour, and the weight of the eggs is equal to or greater than the weight of the fat.

The development of flavor and texture in a product created using the two-stage mixing method can be attributed to the specific and longer mixing times called for in this method as compared to others.

1. Combine or sift together all dry ingredients.

2. Combine all the wet ingredients, including the eggs. The high ratio of shortening and eggs acts as an emulsifier. When added to the dry and liquid ingredients, this emulsion helps to create a smooth batter.

3. In the first stage of mixing, combine the dry ingredient mixture with all of the fat and half of the liquid mixture and mix for 4 minutes on medium speed, scraping down the bowl periodically to ensure the batter is mixed evenly.

4. In the second stage, blend the remaining liquid into the batter in three equal parts, mixing for 2 minutes after each addition, for a total of 6 minutes. Scrape the bowl periodically to make certain that the batter is blended evenly.

LEFT: *The first stage in the two-stage method. Make sure the fat, dry ingredients, and half the liquid are fully combined.*

RIGHT: *The second stage. Blend the remaining liquid into the batter.*

PLUMPING AND MACERATING DRIED FRUITS

PLUMPING DRIED FRUITS by macerating them in a liquid will make them tender and juicy, eliminating any possibility of the undesirable leathery texture they can sometimes have in finished baked goods. Plumping dried fruits also serves to keep the amount of liquid in the formula balanced, as dried fruits can absorb moisture from the dough or batter if they are not first plumped. Furthermore, the liquid used for plumping the fruit can add its own flavor. Fruit can be plumped in liquor such as brandy or rum, or in fruit juice or apple cider. Choose a liquid that complements the other flavors in the formula.

To plump fruit, place it in a bowl, add enough liquid to cover, and allow it to stand until rehydrated and softened. Soaking time will depend on the fruit, its age, and the particular drying process used. However, overnight is usually sufficient.

For quicker maceration, combine the dried fruit and liquid in a saucepan and bring to a simmer over medium heat. Remove from the heat and let the fruit stand in the liquid, covered, until plumped.

When dried fruit is added to a formula, whether plumped or not, it is often first tossed in a small amount of flour, which will help to prevent the fruit from sinking to the bottom of the pan during baking.

FOAMING METHODS

A FOAMING METHOD is any method in which eggs are whipped or beaten to incorporate air before they are mixed into a batter. The air incorporated into the eggs creates a light and airy batter and helps to leaven the final baked item. The air trapped in the eggs will form pockets that, during baking, will expand and cause the product to rise.

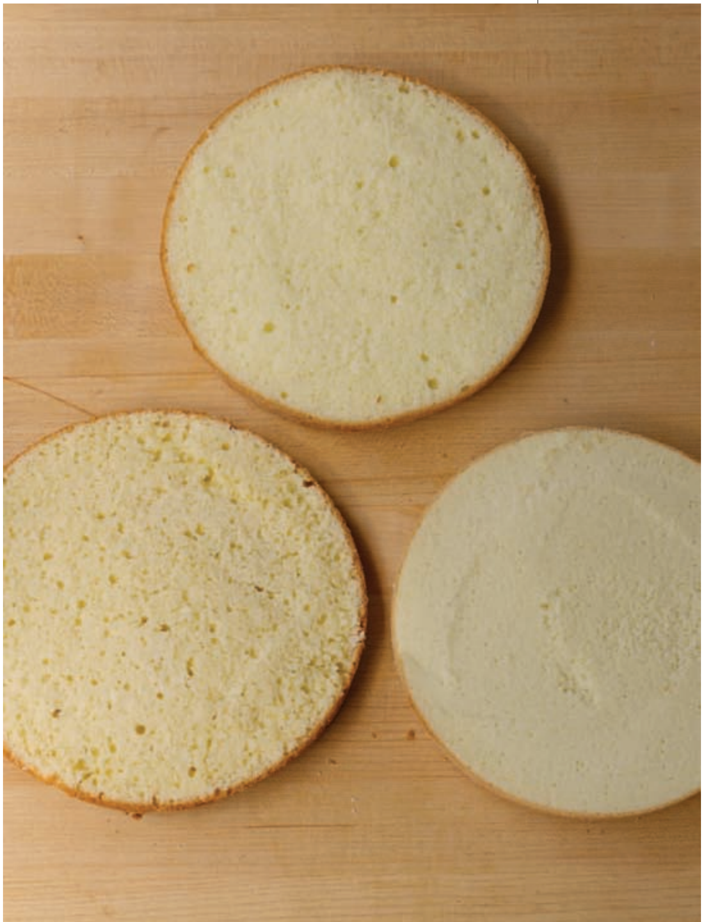
Egg foams are very delicate, so it is important that all ingredients and equipment be assembled and receive any preliminary treatment before you begin to mix the ingredients; this will help to assure that the foaming process proceeds as quickly as possible, thus preventing any loss of volume in the batter.

Flour and any other dry ingredients should be sifted thoroughly to ensure full aeration. Butter should be melted and allowed to cool slightly.

COLD FOAMING METHOD

1. Place the eggs and sugar in the bowl of a mixer large enough to accommodate the volume of the fully beaten eggs. They will typically expand four to six times their original volume.

2. Using the wire whip attachment, whip the mixture to maximum volume on high speed.



Ideal sponge cake interior (top), improperly mixed sponge cake with tunneling (bottom left), overmixed sponge cake (bottom right)

Remove the bowl from the mixer. To determine when the eggs have reached maximum volume, watch as they are beaten; when the aerated mixture just begins to recede, maximum volume has been achieved.

3. Fold the sifted dry ingredients into the beaten eggs gently and gradually, but quickly, to prevent excessive loss of volume. For folding, use a large rubber spatula or other implement with a large, broad, flat surface. This will allow for a larger amount of batter to be lifted with each fold, facilitating the rapid incorporation of ingredients without breaking down the fragile aerated structure.

4. Fold the melted fat into the batter last. You may want to temper in the butter; some chefs feel this eases the fat's full incorporation and lessens any deflating effects on the batter. To do this, first lighten the butter by incorporating a small amount of batter. Then fold this mixture into the remaining batter.

5. Immediately after mixing, scale the batter into each prepared pan and bake.

WARM FOAMING METHOD

1. Place the eggs and sugar in the bowl of a mixer and place the bowl over a pan of barely simmering water. Stir the mixture with a wire whip until it reaches 110°F/43°C. Heating the eggs with the sugar before beating allows the mixture to achieve maximum volume faster and creates a more stable foam because the sugar has been dissolved and the protein in the eggs has become more elastic.

2. Using the wire whip attachment, whip the mixture to maximum volume on high speed.

3. After the egg mixture has reached maximum volume, reduce the mixer speed to medium and

LEFT: *The eggs and sugar are combined and gently heated in a double boiler.*

RIGHT: *The eggs are whipped in a mixer until they just begin to recede.*

NEXT PAGE LEFT: *The flour is folded into the foamed eggs gently so as to minimize their deflation.*

NEXT PAGE RIGHT: *The finished batter is poured into the prepared pans.*

continue to blend for 15 minutes, or longer. Whipping at high speed creates large air bubbles; continuing to mix at a lower speed divides the bubbles, reducing their size and creating a more stable foam, thereby stabilizing the batter.

4. Fold the sifted dry ingredients into the beaten eggs gently and gradually, but quickly, to prevent excessive loss of volume. For folding, use a large rubber spatula or other implement with a large, broad, flat surface. This will allow for a larger amount of batter to be lifted with each fold, facilitating the rapid incorporation of ingredients without breaking down the fragile aerated structure.

5. Fold the melted fat into the batter last. You may want to temper in the butter; some chefs feel this eases the fat's full incorporation and lessens any deflating effects on the batter. To do this, first lighten the butter by incorporating a small amount of batter. Then fold this mixture into the remaining batter.

6. Immediately after mixing, scale the batter into each prepared pan and bake.

SEPARATED FOAM MIXING METHOD

In this variation on a standard cold foam mixing method, the whole eggs are separated and beaten separately into two foams. These foams are then folded together. The separated foam mixing method is slightly more difficult than the cold foaming method because the egg whites, which are whipped alone, can rapidly lose volume. For this reason it is important when using this mixing method that all ingredients and equipment are assembled and receive any preliminary treatment before you begin to mix the batter (e.g., line pans, sift dry ingredients, melt fat, etc.). Dry ingredients should be sifted for aeration as well as to eliminate any lumps that may require extra mixing as dry ingredients are incorporated into the delicate aerated egg mixture.

1. Separate the egg whites from the egg yolks.

2. Whip the egg yolks with a portion of the sugar to the ribbon stage, until the mixture has thickened enough to fall in ribbons from the whip and is pale yellow in color. Set this foam aside. Whipped egg yolks are stable and won't lose volume.

3. Whip the whites, using a clean whip, until soft peaks form. Gradually add the remaining sugar with the mixer running on medium speed, and continue whipping on medium or high speed until the whites form medium peaks. The point to which the whites are beaten is important. If the whites are beaten to stiff peaks, the additional agitation they undergo during folding will cause them to become overbeaten. Overbeaten eggs are less elastic, more difficult to incorporate, will break down more easily, will not develop a stable internal structure, and have less leavening power.

4. Immediately after the whites reach their desired peak, gently fold them into the foamed egg yolks. To fully blend these two components, first combine a small measure of the whites with the yolks to lighten them and make their consistency more akin to that of the whites. Fold the remaining whites into the yolk mixture.

   Bringing the consistency of the yolks closer to that of the whites is a step taken to facilitate the quickest incorporation of the whites into the mixture. The more quickly the two egg mixtures are incorporated, the less the amount of volume lost.

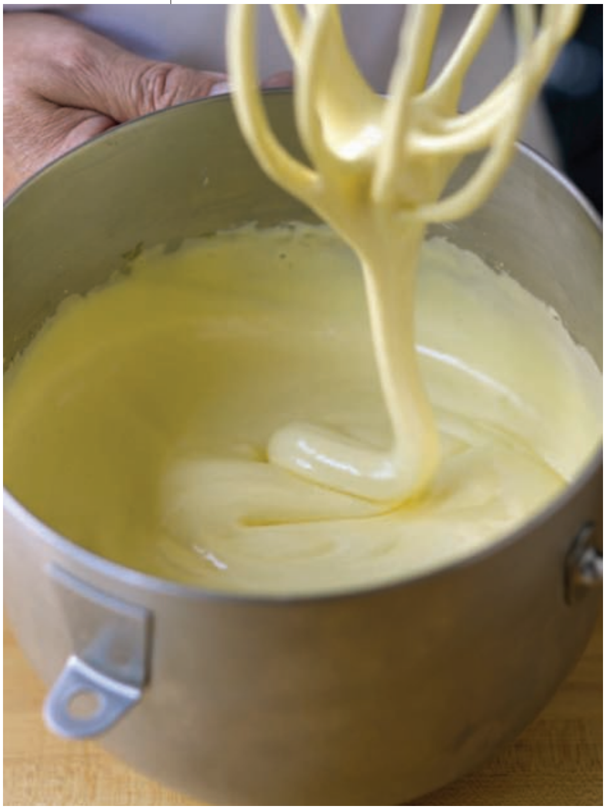
5. Fold the sifted dry ingredients into the egg mixture gently and gradually, but quickly, to prevent excessive loss of volume. For folding, use a large rubber spatula or other implement with a large, broad, flat surface to allow for a larger amount of batter to be lifted with each fold, facilitating the rapid incorporation of ingredients without breaking down the fragile aerated structure.

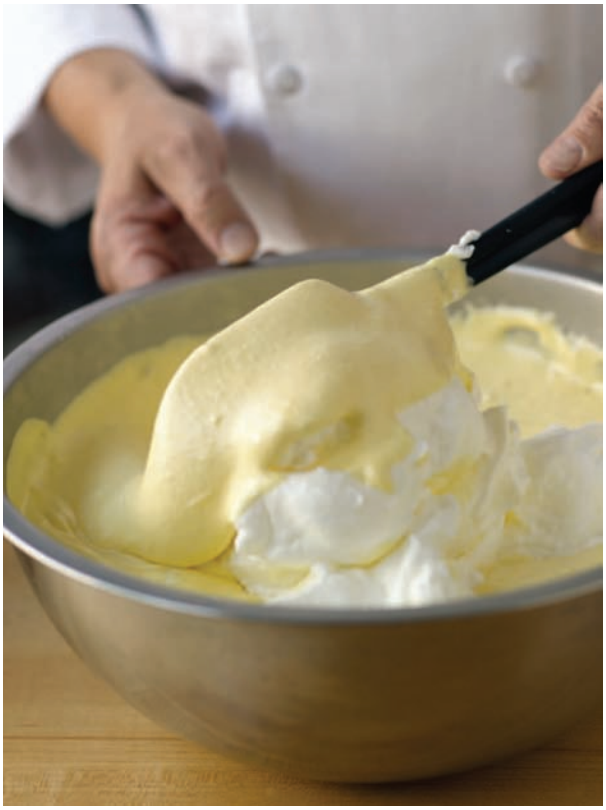
6. Fold the liquid fat into the batter last.

7. Immediately after mixing, scale the batter into each prepared pan and bake. The batter should be scaled into pans and baked immediately to prevent any loss of volume in the batter as it stands.

LEFT: *The egg yolks are beaten with a little sugar to the ribbon stage.*

RIGHT: *A portion of the beaten whites is folded into the beaten yolks to lighten them and ease their full incorporation while maintaining the lightest possible batter.*





ANGEL FOOD MIXING METHOD

Angel food cake is a light, spongy cake based on beaten egg whites and sugar (meringue), stabilized with flour. All of the leavening in an angel food cake is supplied by the air that is whipped into the meringue. It is drier than sponge or chiffon cakes because it does not contain any fat. These cakes have a strong structure as well as an unique structure resulting from the lack of fat, which makes them less desirable for use in layer cakes or as a component of any layered, sliced dessert or pastry.

1. Assemble all equipment and ingredients and sift the flour before beginning to mix. It is important to assemble all equipment and ingredients prior to beginning mixing, as thorough preparation will ensure the batter goes from the mixer to the oven in the shortest amount of time; reducing the time the batter stands in the mixer will prevent a loss of volume in the batter and thus should result in a cake with maximum volume. Ensure that all tools and equipment are clean and completely free of fat.

2. Beat the egg whites until they form soft peaks. Continue whipping and add the sugar, streaming it in gradually with the machine running. All of the leavening in an angel food cake is supplied by the air that is whipped into the meringue.

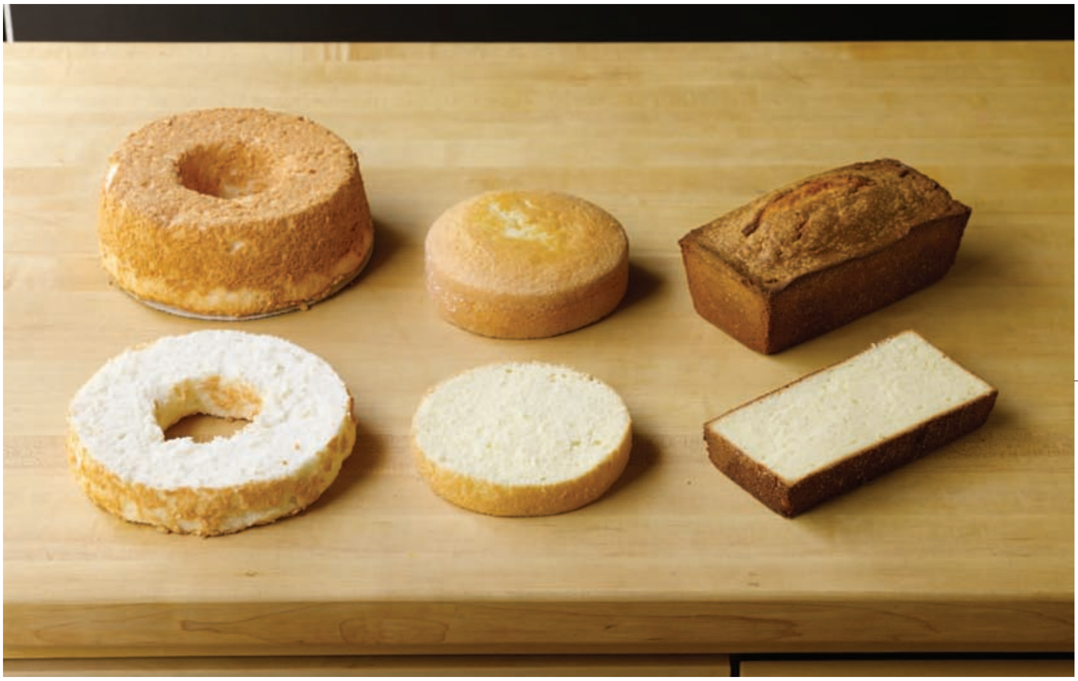
   Eggs lend stability to a product when baking. They also have leavening power; egg whites especially, as they are whipped, trap air that expands when heated. This ultimately creates a larger and lighter product, as demonstrated in this cake's characteristically spongy and airy texture. When sugar is added in the whipping process, the combination of the eggs' moisture along with the mixing agitation causes the sugar to begin dissolving; the sugar in turn coats the air bubbles in the eggs, making them more stable.

3. Once the meringue has medium, glossy peaks, fold in the sifted dry ingredients by hand, working quickly to reduce the deflation of the beaten egg whites.

   Flour acts as perhaps the most common stabilizer in baking; its gluten content (the protein component) builds structure and strength in baked goods. It is important that the flour is sifted, as sifting introduces air into the mixture as well as preventing an uneven, lumpy texture.

4. Sprinkle the ungreased tube pans with a small amount of water before adding the batter to help develop a thin crisp crust on the cake.

5. Scale the batter into each prepared tube pan.



Cakes made using different mixing methods have drastically different textures.

LEFT TO RIGHT: *Angel Food Cake (mixing method on this page), Chiffon Cake (chiffon method; page 266), Pound Cake (creaming method; page 256)*

6. Bake until the cake springs back when lightly touched.

7. Invert each tube pan onto a funnel or long-necked bottle on a rack to cool. Alternatively, for each cake, invert a small ramekin on top of a rack and prop the cake pan on the ramekin, upside down and at an angle. Let the cakes cool completely upside down.

8. Carefully run a palette knife around the sides of each pan and around the center tube to release the cake. Shake the pan gently to invert the cake onto the rack.

CHIFFON MIXING METHOD

The chiffon mixing method is simple to execute and produces a beautiful cake with a tender, moist crumb with ample structure and stability, making it a good choice for building tiered cakes. All advance preparation (pan preparation, etc.) is important for chiffon cakes, as it is for other foamed cakes (for more information on advance preparation for foamed cakes, see page 261).

To make a chiffon cake, sift together the dry ingredients and mix in a portion of the sugar. Blend all the wet ingredients together except for the egg whites. Next, blend the wet ingredients into the sifted dry ingredients. Beat the egg whites until soft peaks form, then stream in the remaining sugar gradually with the mixer running on medium speed. Continue beating the egg whites until medium peaks form.

Finally, fold the meringue into the batter. To do this, first lighten the batter by incorporating approximately one-third of the egg whites. Then gently fold in the remaining two-thirds of the beaten egg whites.

COMBINATION MIXING METHOD

THE COMBINATION MIXING method combines the creaming mixing method with the foaming method. This combination gives the cake qualities of both methods: the rich, moist crumb of a creamed cake as well as some of the lightness of a batter that has the additional leavening power of beaten egg whites. For the combination method, beaten whites are folded into a creamed batter to add structure and leavening.

1. Prepare the pan(s), assemble the ingredients, and sift the dry ingredients. When making anything using this method, as with other foamed batters, advance preparation (pan preparation, sifting, ingredient assembly, etc.) is critical to successful completion. Advance preparation is necessary to ensure that the mixing process proceeds quickly and smoothly; this will result in a batter able to maintain maximum volume before baking.

2. Cream together the butter and some of the sugar. This step helps to develop air cells, which will facilitate the leavening process during baking. Evenly creamed butter and sugar will have a pale color and a light and smooth texture.

3. Blend the whole eggs and/or yolks into the creamed mixture.

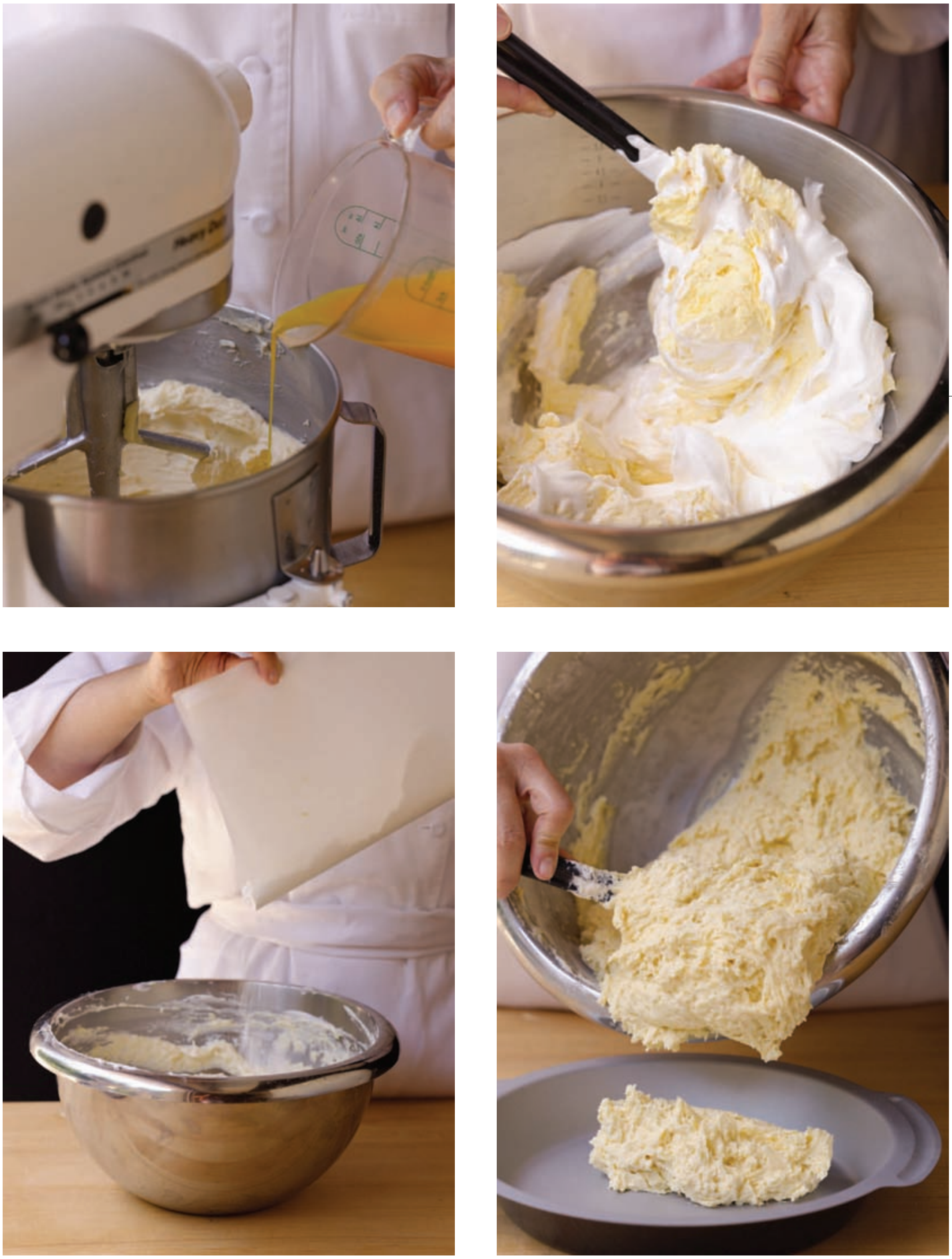
4. Beat the egg whites until soft peaks form and then stream in the remaining sugar gradually with the mixer running on medium speed. Beat the egg whites until medium peaks form. Beaten egg whites add significant additional leavening power to the final product. The point to which they are beaten is important; if whites are beaten to stiff rather than medium peaks, the additional agitation they receive during folding will cause them to be overbeaten.

5. To incorporate the egg whites into the creamed mixture while keeping as much volume as possible, first add about one-third of the beaten egg whites, blending them in gently but thoroughly, to lighten the creamed mixture. After that, the batter will accept the remaining egg whites more easily and with less vigorous mixing, allowing for less loss of volume. Gentle folding aids in preserving the volume created by the air pockets in both the existing meringue as well as in the creamed mixture. Gently fold in the remaining egg whites just until evenly blended.

6. Fold in the sifted dry ingredients and any garnishes quickly but gently.

The dry ingredients are added last because if they were added to the creamed mixture before the meringue, the batter would be much too stiff to accept the light, airy meringue.

7. Immediately after mixing, scale the batter evenly into each prepared pan and bake.



TOP LEFT: *Cream the butter and sugar, and gradually add the egg yolks.*

TOP RIGHT: *Gently fold in the egg whites.*

BOTTOM LEFT: *Add the dry ingredients and mix to incorporate.*

BOTTOM RIGHT: *The finished batter is poured into the prepared pans.*

TOP TO BOTTOM: *Almond scones, mixed berry muffins, Banana Bread (page 274), glazed raspberry quickbread, corn muffins*

GINGER CAKE

MAKES 35 CAKES (2 OZ/60G EACH)

INGREDIENT	U.S.	METRIC
Butter	8 oz	230 g
Dark brown sugar	7 oz	200 g
Light corn syrup	10½ oz	300 g
Molasses, unsulfured	10½ oz	300 g
Finely minced ginger	¾ oz	20 g
Ground cinnamon	1½ tsp	3 g
Baking soda	1 tbsp	9 g
Milk	13 oz	370 g
Eggs	6 oz	170 g
All-purpose flour, sifted	1 lb	450 g

1. Lightly butter and dust with flour 35 baking pans, 3 in/8 cm in diameter, 1½ in/4 cm high.

2. Melt the butter, add the brown sugar, corn syrup, molasses, ginger, and cinnamon, and blend well. Remove from the heat.

3. Blend the baking soda with the milk, add the eggs, and add to the sugar mixture.

4. Add the sifted flour and blend well. Pour 2 oz/60 g of the batter into each prepared pan.

5. Bake at 375°F/191°C until a skewer inserted in the center of a cake comes out clean, 30 to 40 minutes. Be careful not to over bake; the cake should be very moist yet baked through.

6. Cool completely in the pans on racks.

STRAWBERRY CAKE

MAKES 1 SHEET PAN

INGREDIENT	U.S.	METRIC
Sugar	1 lb 1½ oz	500 g
All-purpose flour	1 lb	450 g
Baking powder	¾ oz	20 g
Vanilla powder	Pinch	Pinch
Butter	8 oz	230 g
Eggs, warmed (about 82°F/28°C)	7 oz	200 g
Strawberry purée	1 lb 3¼ oz	550 g

1. Prepare desired pans with a light film of fat and a dusting of flour. Line with parchment paper.

2. Sift together the sugar, flour, baking powder, and vanilla powder.

3. Melt the butter and whisk into the warmed eggs.

4. Warm the purée to body temperature (99°F/37°C).

5. Mix the butter-egg mixture into the purée. Add the mixture to the dry ingredients and mix until homogeneous. Pour the batter into the prepared pan.

6. Bake at 320°F/160°C until it springs back to the touch, about 20 minutes.

CREAM SCONES

MAKES 40 SCONES (APPROXIMATELY 1¾ OZ/50 G EACH)

INGREDIENT	U.S.	METRIC
Pastry flour	1 lb 10 oz	740 g
Salt	2 tsp	12g
Baking powder	1 oz	30 g
Sugar	3 oz	90 g
Butter, cold, cubed	12 oz	340 g
Eggs	2 oz	60 g
Egg yolks	2 oz	60 g
Heavy cream	15 oz	420 g
Garnish (see Variations; optional)	12 oz	340 g
Egg Wash (page 1064)	As needed	As needed

1. Line a sheet pan with parchment paper.

2. Sift together the flour, salt, baking powder, and sugar.

3. Add the butter to the dry ingredients. Mix on low speed with the paddle attachment to incorporate.

4. Combine the eggs, yolks, and heavy cream.

5. Add the egg mixture to the sifted dry ingredients and butter all at once. Mix to incorporate, then mix in the garnish, if using. Do not over mix.

6. Place the dough on the prepared sheet pan, and pat or roll until it is approximately 1 in/3 cm thick. Cover and chill in the refrigerator until firm, at least 1 hour.

7. Cut the dough into the desired shape, brush with egg wash, let rest for 5 minutes, and brush with egg wash again.

8. Bake at 400°F/204°C until golden brown, 15 to 18 minutes.

9. Cool the scones on the sheet pan for a few minutes, then transfer them to racks to cool completely.

VARIATIONS

Garnishes may include currants, raisins, dried cherries or cranberries, chocolate chunks, nuts, and savory items.

For Almond Cream Scones, add 4 oz/113 g almond paste with the butter in Step 3. Add 8 oz/227 g toasted sliced almonds in Step 5. Sprinkle with sanding sugar after the second coat of egg wash in Step 7. Bake as directed.

BUTTERMILK BISCUITS

MAKES 40 BISCUITS (1½ OZ/43 G EACH)

INGREDIENT	U.S.	METRIC
All-purpose flour	3 lb	1.36 kg
Sugar	4 oz	110 g
Baking powder	3 oz	90 g
Salt	¾ oz	20 g
Butter, cubed, cold	1 lb	450 g
Eggs	8 oz	230 g
Buttermilk	1 lb 8 oz	680 g
Egg Wash (page 1064)	As needed	As needed

1. Line a sheet pan with parchment paper.

2. Sift together the flour, sugar, baking powder, and salt.

3. Add the butter and rub together until the mixture has the appearance of a coarse meal.

4. Combine the eggs and buttermilk. Add to the flour mixture, kneading gently until the ingredients hold together.

5. Roll out the dough on a lightly floured work surface to a thickness of 1 in/3 cm. Cut out biscuits using a 2-in/5-cm cutter.

6. Place the biscuits on the prepared pan and lightly brush with egg wash.

7. Bake at 425°F/218°C until golden brown, about 15 minutes.

8. Transfer the biscuits to racks and cool completely.

PUMPKIN QUICK BREAD

MAKES 10 LOAVES (1 LB 14 OZ/850G EACH)

INGREDIENT	U.S.	METRIC
Raisins	2 lb 4 oz	1.02 kg
Water	1 lb 12 oz	790 g
Bread flour	3 lb	1.36 kg
Pastry flour	8 oz	230 g
Baking powder	1¼ oz	40 g
Pumpkin purée	3 lb 5 oz	1.5 kg
Sugar	4 lb 8 oz	2.04 kg
Eggs	1 lb 8 oz	680 g
Baking soda	¾ oz	20 g
Salt	1 oz	30 g
Ground cloves	¼ tsp	0.5 g
Ground nutmeg	1 tbsp	7 g
Ground cinnamon	1 tbsp	7 g
Vegetable oil	1 lb 8 oz	680 g

1. Soak the raisins in the water overnight, or until thoroughly plumped.

2. Coat the loaf pans with a light film of fat.

3. Sift together the flours and baking powder.

4. Combine the pumpkin purée, sugar, eggs, baking soda, salt, and spices and mix with the paddle attachment on medium speed for 8 minutes.

5. Gradually add the oil, scraping the bowl often.

6. Add the sifted dry ingredients all at once and mix to incorporate. Add the raisins and water.

7. Scale 1 lb 14 oz/850 g batter into each prepared loaf pan.

8. Bake at 350°F/177°C until the bread springs back when pressed and a tester inserted near the center comes out clean, 45 to 60 minutes.

9. Cool the loaves in the pans for a few minutes, then unmold onto racks and cool completely.

CHEF'S NOTES

Muffins made from this batter should be baked at 425° to 450°F/218° to 232°C for best results.

For Pumpkin Danish, bake the pumpkin bread batter on a sheet pan at 320°F/160°C until golden brown. Cut it into 3½ by 1-in/9 x 3-cm rectangles.

BANANA BREAD

MAKES 6 LOAVES (1 LB 14 OZ/850G EACH)

INGREDIENT	U.S.	METRIC
All-purpose flour	2 lb 13 oz	1.28 kg
Baking powder	2½ tsp	7.5 g
Baking soda	¾ oz	21 g
Salt	1½ tsp	9 g
Bananas, very ripe, unpeeled	4 lb 4 oz	1.93 kg
Lemon juice	1 tbsp	20 g
Sugar	2 lb 13 oz	1.28 kg
Eggs	12 oz	340 g
Vegetable oil	14 oz	400 g
Pecans, coarsely chopped	8 oz	230 g

1. Coat the loaf pans with a light film of fat and flour.

2. Sift together the flour, baking powder, baking soda, and salt.

3. Peel and purée the bananas with the lemon juice.

4. Combine the banana purée, sugar, eggs, and oil and mix with the paddle attachment on medium speed until blended. Scrape down the bowl as needed.

5. Add the sifted dry ingredients and mix until just combined. Scrape down the bowl as needed. Mix in the pecans.

6. Scale 1 lb 14 oz/850 g batter into each prepared pan. Gently tap the filled pans to burst any large air bubbles.

7. Bake at 350°F/177°C until the bread springs back when pressed and a tester inserted near the center comes out clean, about 55 minutes.

8. Cool the loaves in the pans for a few minutes, then unmold onto racks and cool completely.

ZUCCHINI QUICK BREAD

MAKES 9 LOAVES (1 LB 14 OZ/850G EACH)

INGREDIENT	U.S.	METRIC
Bread flour	3 lb	1.36 kg
Pastry flour	8 oz	230 g
Baking powder	1¼ oz	40 g
Baking soda	¾ oz	20 g
Salt	1 oz	30 g
Ground cloves	1½ tsp	4 g
Ground cinnamon	1 tbsp	7 g
Sugar	4 lb 8 oz	2.04 kg
Eggs	1 lb 8 oz	680 g
Zucchini, grated	5 lb	2.27 kg
Pecans, coarsely chopped	1 lb	450 g

1. Coat the loaf pans with a light film of fat and flour.

2. Sift together the flours, baking powder, baking soda, salt, and spices.

3. Combine the sugar, eggs, and oil and mix with the paddle attachment on medium speed until blended. Scrape down the bowl as needed.

4. Add the sifted dry ingredients and mix until just combined.

5. Blend the zucchini and pecans into the batter.

6. Scale 1 lb 14 oz/850 g batter into each prepared loaf pan. Gently tap the filled pans to burst any air bubbles.

7. Bake at 350°F/177°C until the bread springs back when pressed and a tester inserted near the center comes out clean, about 55 minutes.

8. Cool the loaves in the pans for a few minutes, then unmold onto racks and cool completely.

CHEF'S NOTE

Muffins made with this batter should be baked at 400°F/204°C for best results.

OLD-FASHIONED POUND CAKE

MAKES 4 CAKES (1 LB 10 OZ/737 G EACH)

INGREDIENT	U.S.	METRIC
Salt	1½ tsp	9 g
Cake flour	1 lb 8 oz	680 g
Cornstarch	5 oz	140 g
Baking powder	¾ oz	20 g
Butter, soft	1 lb 4 oz	570 g
Sugar	1 lb 8 oz	680 g
Lemon zest, grated	1 oz	30 g
Eggs, room temperature	2 lb	910 g

1. Coat the loaf pans with a light film of fat and line with parchment paper.

2. Sift together the salt, cake flour, cornstarch, and baking powder.

3. Cream together the butter and sugar with the paddle attachment, starting on low speed and increasing to medium speed, for 5 minutes.

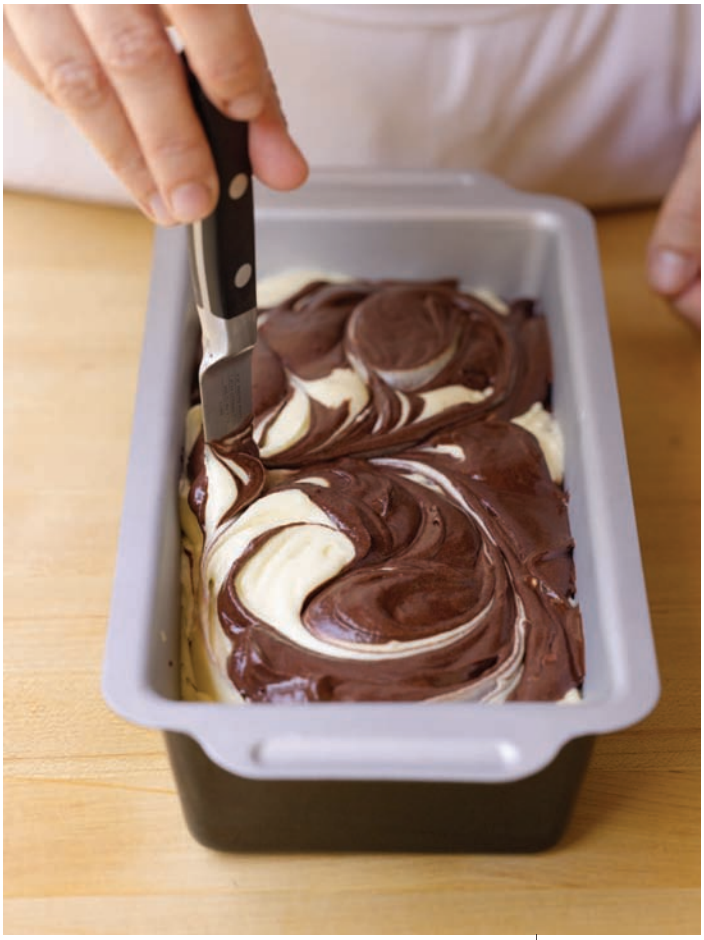
4. Combine the lemon zest with the eggs and add to the creamed mixture alternately with the flour in three stages on low speed.

5. Scale 1 lb 10 oz/740 g batter into each pan. Bake in a 375°F/191°C oven until the cake springs back when pressed and a tester inserted near the center comes out clean, 45 to 50 minutes. Cool slightly in the pans. Unmold and cool completely on racks.

VARIATIONS

LEMON POUND CAKE *Add the grated zest and juice of 3 lemons to the butter and sugar before creaming them together. Scale and bake as directed above.*

MARBLE POUND CAKE *Add 12 oz/340 g melted and cooled bittersweet chocolate: After blending the batter, transfer one-third of the batter to a separate bowl and add the melted chocolate, folding it in thoroughly using a rubber spatula. Gently pour the chocolate batter into the plain batter. Using a knife, metal spatula, or the handle of a wooden spoon, gently swirl the batters together with 3 or 4 strokes. Do not over blend. Scale and bake as directed above.*



TOP LEFT: *Mix chocolate into the pound cake batter to create the second color and flavor for marbling.*

TOP RIGHT: *The two batters are gently and only slightly combined to create marbling.*

BOTTOM LEFT: *The marbling effect is revealed throughout the loaf after baking.*

SOUR CREAM–STREUSEL POUND CAKE

MAKES 8 CAKES (1 LB 9 OZ/710 G EACH)

INGREDIENT	U.S.	METRIC
FILLING		
Dark brown sugar	1 lb 8 oz	680 g
Walnuts, finely chopped	8 oz	230 g
Chocolate chips	8 oz	230 g
Ground cinnamon	1 tbsp	7 g
Cocoa powder	1 tbsp	7g
CAKE BATTER		
Salt	½ oz	14 g
Cake flour	3 lb	1.36 kg
Baking powder	¾ oz	20 g
Baking soda	1½ tsp	7g
Butter, soft	2 lb	910 g
Granulated sugar	2 lb	910 g
Egg, room temperature	2 lb	910 g
Vanilla extract	1 tsp	5 mL
Sour cream	2 lb	910 g

1. Coat the loaf pans with a light film of fat.

2. To prepare the filling, combine all the filling ingredients and mix with the whip attachment on medium speed until smooth, about 5 minutes.

3. To prepare the cake batter, sift together the salt, flour, baking powder, and baking soda.

4. Cream together the butter and granulated sugar with the paddle attachment, starting on low speed and increasing to medium speed, until smooth, about 5 minutes.

5. Combine the eggs, vanilla, and sour cream.

6. Add the egg mixture to the creamed mixture alternately with the flour mixture in three stages, mixing on low speed.

7. Scale 11 oz/310 g batter into each prepared pan.

8. Add 2½ oz/70 g of the filling and cover with 11 oz/310 g of batter.

9. Add 2½ oz/70 g of the filling on top. Lightly blend the filling into the pound cake with a knife (as you would do for marble pound cake).

10. Bake at 380°F/193°C until firm to the touch, 40 minutes. Allow to cool slightly in the pans. Unmold and cool completely on racks.

RUM CAKE

MAKES 6 BUNDT CAKES (9 IN/23 CM EACH)

INGREDIENT	U.S.	METRIC
CAKE		
Cake flour	3 lb	1.36 kg
Baking powder	1½ oz	40 g
Salt	1 tsp	6 g
Butter, soft	2 lb	910 g
Sugar	3 lb 8 oz	1.59 kg
Eggs	1 lb 6 oz	620 g
Egg yolks	1 lb 6 oz	620 g
Orange zest, grated	1 tbps	9 g
Lemon zest, grated	1 tbsp	9 g
Milk	1 lb 8 oz	680 g
RUM SYRUP		
Sugar	3 lb	1.36 kg
Water	1 lb 8 oz	680 g
Light corn syrup	1 lb	450 g
Dark rum	12 oz	340 g

1. Coat the Bundt pans with a light film of fat.

2. To prepare the cake, sift together the flour, baking powder, and salt.

3. Cream together the butter and sugar with the paddle attachment starting on low speed and increasing to medium speed and scraping down the bowl as needed, until the mixture is smooth and light in color, about 5 minutes.

4. Blend the eggs, yolks, and zests and add in three additions, mixing until fully incorporated after each addition and scraping down the bowl as needed.

5. Add the sifted dry ingredients alternately with the milk on low speed in three additions, mixing until smooth and fully incorporated after each addition.

6. Scale 2 lb/910 g batter into each prepared cake pan.

7. Bake at 350°F/177°C until a skewer inserted near the center of the cake comes out clean, about 30 minutes.

8. To prepare the syrup, combine the sugar, water, and corn syrup and bring to a boil. Remove from the heat and let cool. Stir in the rum.

9. Cool the cakes in the pans for a few minutes, then invert onto racks. Brush the warm cakes with the rum syrup.

LEMON BUTTERMILK CAKE

MAKES 6 BUNDT CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Bread flour	3 lb 13 oz	1.73 kg
Baking soda	2 tsp	10 g
Salt	2 tsp	12 g
Butter, soft	2 lb	910 g
Sugar	3 lb 6 oz	1.53 kg
Eggs	1 lb 8 oz	680 g
Lemon zest, grated	1¼ oz	40 g
Buttermilk	2 lb	910 g
Lemon juice	6 oz	170 g

1. Coat the Bundt pans with a light film of fat.
2. Sift together the flour, baking soda, and salt.
3. Cream the butter and sugar with the paddle attachment, starting on low speed and increasing to medium speed and scraping down the bowl as needed, until the mixture is smooth and light in color, about 5 minutes.
4. Blend the eggs and lemon zest and add in three additions, mixing until fully incorporated after each addition and scraping down the bowl as needed.
5. Add the sifted dry ingredients alternately with the buttermilk in three additions, mixing on low speed until just incorporated. Add the lemon juice and blend.
6. Scale 2 lb 6 oz/1.10 kg batter into each prepared pan.
7. Bake at 350°F/177°C until the cakes spring back when lightly touched and a skewer inserted near the center comes out clean, about 60 minutes.
8. Cool the cakes in the pans for a few minutes, then unmold onto racks to cool completely.

POLENTA CAKE

MAKES 6 CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
All-purpose flour	1 lb 5 oz	600 g
Baking powder	1 oz	30 g
Salt	¾ oz	20 g
Butter, soft	2 lb 13 oz	1.28 kg
Sugar	3 lb 3 oz	1.45 kg
Eggs	2 lb 4 oz	1.02 kg
Egg yolks	2 lb 4 oz	1.02 kg
Vanilla extract	1 tbsp	15 mL
Cornmeal	1 lb 5 oz	600 g

1. Coat the pans with a light film of fat and line them with parchment circles.

2. Sift together the flour, baking powder, and salt.

3. Cream together the butter and sugar with the paddle attachment, starting on low speed and increasing to medium speed and scraping down the bowl as needed, until the mixture is smooth and light in color, about 5 minutes.

4. Whisk together the eggs, egg yolks, and vanilla. Gradually add to the butter mixture, mixing on low speed and scraping down the bowl periodically, until evenly blended.

5. Turn off the mixer and add all of the sifted dry ingredients and the cornmeal at once. Mix on low speed until evenly moistened.

6. Scale 1 lb 14 oz/850 g batter into each prepared pan. Gently tap the pans to release any large air bubbles.

7. Bake at 350°F/177°C until a skewer inserted near the center of a cake comes out clean, 50 to 60 minutes.

8. Cool the cakes in the pans for a few minutes, then unmold onto racks to cool completely.

VARIATION

ALMOND POLENTA CAKE *Substitute almond extract for the vanilla extract.*

MARJOLAINE SPONGE

MAKES 2 FULL SHEET PANS

INGREDIENT	U.S.	METRIC
Egg whites	2 lb	910 g
Sugar	2 lb 4 oz	1.02 kg
Hazelnuts, finely ground	1 lb 6 oz	620 g
Almonds, finely ground	1 lb 6 oz	620 g
All-purpose flour	6 oz	170 g

1. Line the sheet pans with parchment paper.

2. Whip the egg whites to soft peaks with the whip attachment on medium speed. Add 12 oz/340 g of sugar gradually to the egg whites and whip on high speed to maximum volume.

3. While mixing, combine the hazelnuts, almonds, flour, and the remaining 1 lb 8 oz/680 g of the sugar.

4. Fold the dry ingredients into the beaten egg whites.

5. Spread the meringue evenly on the parchment-lined sheet pans.

6. Bake at 370°F/188°C until light golden brown, about 20 minutes.

7. Immediately remove the marjolaine from the hot pans by inverting onto racks, to prevent it from drying out. Peel off the parchment and cool completely.

CHRISTMAS FRUITCAKE

MAKES 6 LOAVES (3 LB/1.36 KG EACH)

INGREDIENT	U.S.	METRIC
Golden raisins	2 lb 4 oz	1.02 kg
Dark raisins	2 lb 4 oz	1.02 kg
Candied fruit, diced	4 lb 8 oz	2.04 kg
Candied cherries	12 oz	340 g
Honey	12 oz	340 g
Dry sherry	1 lb	450 g
Bread flour	1 lb 8 oz	680 g
Salt	1½ oz	40 g
Ground ginger	1 tbsp	7 g
Ground cloves	2 tsp	4 g
Ground cinnamon	1 tbsp	7 g
Sugar	1 lb 3½ oz	550 g
Butter, soft	1 lb 8 oz	680 g
Eggs	1 lb 8 oz	690 g
Walnuts, chopped	12 oz	340 g

1. Combine the golden and dark raisins, candied fruit, candied cherries, honey, and dry sherry and let soak overnight or until the raisins are fully plumped.

2. Coat the loaf pans with a light film of fat and dust with flour.

3. Sift the flour, salt, and spices together.

4. Cream together the sugar and butter with the paddle attachment, starting on low speed and increasing to medium speed and scraping down the bowl as needed, until the mixture is smooth and light in color, about 5 minutes.

5. Add the eggs gradually, a few at a time, mixing on low speed until fully incorporated and scraping down the bowl as needed.

6. Turn off the mixer and add the sifted dry ingredients all at once to the butter mixture. Mix until smooth. Fold in the walnuts and the fruit mixture.

7. Scale 3 lb/1.36 kg batter into each prepared pan.

8. Bake at 275°F/135°C until a skewer inserted near the center of the cake comes out with a few moist crumbs, 2 to 2½ hours.

9. Cool the cakes in the pans for a few minutes, then unmold onto racks to cool completely.

CHEF'S NOTE

The cakes may be finished with a coating of Apricot Glaze (page 492) or a dusting of confectioners' sugar after they have cooled completely.

HIGH-RATIO WHITE CAKE

MAKES 6 CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Sugar	2 lb 10 oz	1.19 kg
Cake flour	2 lb 8 oz	1.13 kg
Baking powder	1½ oz	40 g
Salt	1 tsp	6 g
Milk	1 lb 2 oz	510 g
Eggs	10½ oz	300 g
Egg whites	13½ oz	380 g
Vanilla extract	1½ oz	40 g
Butter, soft	1 lb 8 oz	680 g

1. Coat the pans with a light film of fat and line them with parchment circles.

2. Sift together the sugar, flour, baking powder, and salt.

3. Combine the milk, eggs, egg whites, and vanilla.

4. Blend the butter with the dry ingredients and half of the milk mixture. Mix with the paddle attachment on medium speed, scraping down the bowl periodically, until smooth, 4 minutes.

5. Add the remaining milk mixture in three additions, mixing for 2 minutes after each addition.

6. Scale 1 lb 8 oz/680 g batter into each prepared pan.

7. Bake at 350°F/177°C until the cake springs back when lightly touched in the center, about 35 minutes.

8. Cool the cakes in the pans for a few minutes, then unmold onto racks to cool completely.

VARIATIONS

HIGH-RATIO YELLOW CAKE *Increase the quantity of whole eggs to 13½ oz/380 g and substitute 10½ oz/300 g egg yolks for the egg whites. Follow the method above.*

HIGH-RATIO CHOCOLATE CAKE *Decrease the cake flour to 13½ oz/380 g and add 14½ oz/210 g cocoa powder. Follow the method above.*

DEVIL'S FOOD CAKE

MAKES 6 CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Sugar	3 lb 13 oz	1.73 kg
Cake flour	2 lb 5 oz	1.05 kg
Baking soda	1¼ oz	40 g
Baking powder	2½ tsp	10 g
Eggs	1 lb 8 oz	680 g
Butter, melted and kept warm	1 lb 9 oz	710 g
Water, warm	3 lb 2 oz	1.42 kg
Vanilla extract	1 oz	30 g
Cocoa powder, sifted	15 oz	430 g

1. Coat the pans with a light film of fat and line them with parchment circles.

2. Sift together the sugar, flour, baking soda, and baking powder.

3. Combine the eggs, butter, water, and vanilla and mix with the paddle attachment. Blend in the sifted dry ingredients on medium speed, scraping down the bowl periodically, until a smooth batter forms. Add the cocoa powder and mix until evenly blended.

4. Scale 2 lb 3 oz/990 g batter into each prepared pan.

5. Bake at 350°F/177°C until a skewer inserted near the center of a cake comes out clean, about 45 minutes.

6. Cool the cakes in the pans for a few minutes, then unmold onto racks to cool completely.

TOP TO BOTTOM: *Angel Food Cake (page 287), Flourless Chocolate Cake (page 289), vanilla pound cake iced with fondant, Vanilla Sponge (page 288) with vanilla buttercream and Chocolate Décor (see page 985)*

ANGEL FOOD CAKE

MAKES 5 TUBE CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Sugar	2 lb 8 oz	1.13 kg
Cream of tartar	½ oz	14 g
Cake flour	15½ oz	440 g
Salt	1½ tsp	9 g
Egg whites	2 lb 8 oz	1.13 kg
Vanilla extract	1 tbsp	15 mL

1. Sprinkle the insides of the tube pans lightly with water.

2. Combine 1 lb 4 oz/570 g of the sugar with the cream of tartar. Sift together the remaining 1 lb 4 oz/570 g sugar with the flour and salt.

3. Whip the egg whites and vanilla with the whip attachment on medium speed to soft peaks.

4. Gradually add the sugar–cream of tartar mixture to the egg whites, whipping on high speed to maximum volume.

5. Turn off the mixer and gently fold the sifted sugar and flour mixture into the egg whites until just incorporated.

6. Scale 15 oz/430 g batter into each prepared tube pan.

7. Bake at 350°F/177°C oven until the cake springs back when lightly touched, about 35 minutes.

8. Invert each tube pan onto a funnel or long-necked bottle on a rack to cool. Alternatively, for each cake, invert a small ramekin on top of a rack and prop the cake pan on the ramekin upside down and at an angle. Let the cakes cool completely upside down.

9. Carefully run a palette knife around the sides of each pan and around the center tube to release the cake. Shake the pan gently to invert the cake onto the rack.

VANILLA SPONGE

MAKES 4 CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Butter, melted	9 oz	260 g
Vanilla extract	1 oz	30 g
Eggs	1 lb 11 oz	770 g
Egg yolks	9 oz	260 g
Sugar	1 lb 11 oz	770 g
All-purpose flour, sifted	1 lb 11 oz	770 g

1. Coat the cake pans with a light film of fat and line them with parchment circles.

2. Blend the butter with the vanilla.

3. Combine the eggs, egg yolks, and sugar in a mixer bowl. Set over a pan of barely simmering water and whisk constantly until the sugar dissolves and the mixture reaches 110°F/43°C.

4. Transfer to the mixer and whip on high speed with the whip attachment until the foam reaches maximum volume. Reduce the speed to medium and mix for 15 minutes to stabilize the mixture.

5. Turn off the mixer and fold in the flour. Temper the butter mixture with a small portion of the batter and fold into the larger portion of batter.

6. Scale 1 lb/450 g batter into each prepared cake pan, filling the pans two-thirds full.

7. Bake at 350°F/177°C until the tops of the cakes spring back when lightly touched, about 30 minutes.

8. Cool the cakes in the pans for a few minutes, then unmold onto a sheet pan lined with parchment paper that is dusted with confectioners' sugar to cool completely.

VARIATION

CHOCOLATE SPONGE *Replace 4 oz/110 g of the flour with Dutch-process cocoa powder. Sift the cocoa powder together with the flour. Follow the remaining method as stated above.*

FLOURLESS CHOCOLATE CAKE

MAKES 1 HALF SHEET PAN OR TWO 8-INCH CAKES

INGREDIENT	U.S.	METRIC
Bittersweet chocolate, chopped	5 oz	140 g
Butter	5 oz	140 g
Cocoa powder	2 oz	60 g
Eggs, separated	5	5
Sugar	5 oz	140 g

1. Melt the butter and chocolate together in a bowl over a pan of barely simmering water.

2. Whisk in the cocoa powder. Allow the mixture to cool and blend in the egg yolks gradually.

3. Whip the egg whites until foamy. Stream in the sugar while continuing to whip to medium peaks.

4. Fold in a portion (approximately ⅓) of the meringue to lighten the batter. Gently fold in the remaining meringue.

5. Spread the batter in an even layer onto a parchment-lined sheet pan.

6. Bake in a preheated 350°F oven until the center springs back when lightly touched.

LEFT: *Combine the chocolate, butter, and cocoa powder over a water bath and stir to create a smooth paste.*

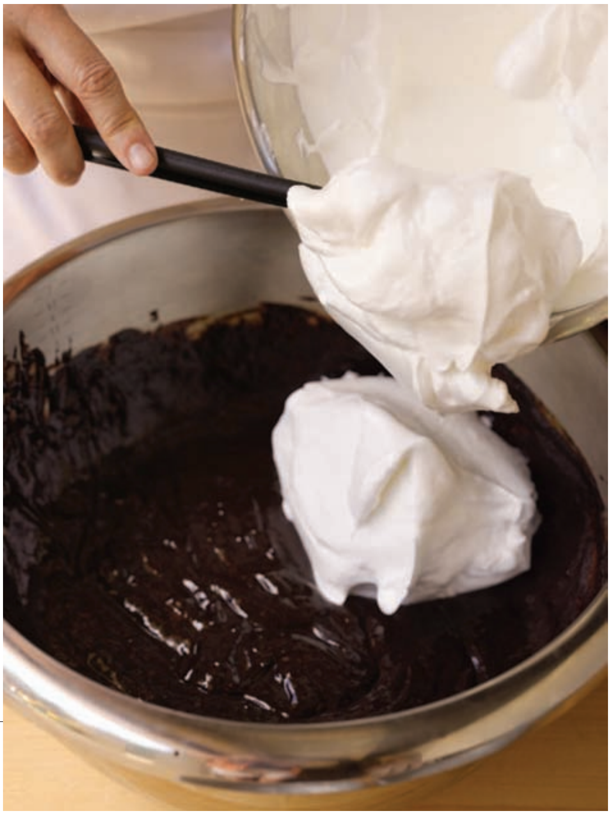
RIGHT: *Add the egg yolks gradually.*

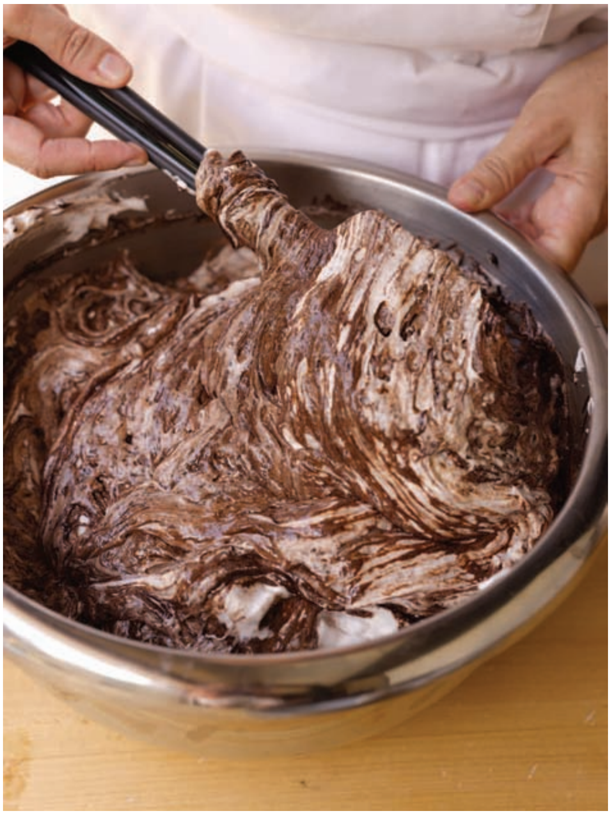
TOP LEFT: *Temper the mixture with one-third of the egg whites to lighten the base.*

TOP RIGHT: *Fold in the remaining meringue, mixing just to combine.*

BOTTOM LEFT: *Pour the batter into prepared cake pans.*

BOTTOM RIGHT: *When the cake is baked, run a paring knife around the edge of the pan to release the cake from the pan.*





FLOURLESS 64% CHOCOLATE CAKE

MAKES 1 HALF SHEET PAN

INGREDIENT	U.S.	METRIC
Chocolate, 64%, chopped	6 oz	170 g
Butter	1 oz	30 g
Sugar	2½ oz	70 g
Egg yolks	2	2
Water	1 oz	30 g
Egg whites	5 oz	140 g

1. Melt the chocolate and the butter together in a bowl over a pan of barely simmering water. Add 1 oz/30 g of the sugar and mix to combine. Reserve.
2. Whip the yolks and the water to full volume.
3. Whip the whites until frothy. stream in the remaining 1½ oz/40 g sugar and continue to whip to medium peaks.
4. Fold half of the yolks into the chocolate mixture. Add the rest of the yolks and all the whites. Fold until fully combined and smooth.
5. Spread the mixture onto a half sheet pan lined with parchment paper and bake at 325°F/163°C until set, 8 minutes.
6. Cool to room temperature and then freeze.

CHOCOLATE XS

MAKES 6 CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Water	1 lb 12 oz	790 g
Sugar	2 lb 11½ oz	1.23 kg
Semisweet chocolate, chopped	1 lb 13 oz	820 g
Bittersweet chocolate, chopped	2 lb 2 oz	960 g
Butter, melted	2 lb 11 oz	1.22 kg
Eggs	3 lb 10 oz	1.64 kg
Vanilla extract	1 oz	30 g

1. Brush the insides of the cake pans with the softened butter and line them with parchment circles.

2. Combine the water and 1 lb 13 oz/820 g of the sugar in a heavy-bottomed saucepan and bring to a boil. Remove from the heat and add the chocolates; stir until the chocolate is melted. Stir in the melted butter. Let cool to room temperature.

3. Whip the eggs with the remaining 14½ oz/410 g sugar and the vanilla on high speed with the whip attachment to maximum volume.

4. Turn off the mixer and gently fold the melted chocolate mixture into the egg mixture.

5. Scale 2 lb 5 oz/1.05 kg batter into each prepared pan.

6. Bake in a water bath at 350°F/177°C until the tops of the cakes feel firm, about 1 hour.

7. Cool, then wrap in plastic wrap and refrigerate overnight, or until completely chilled in the pans, before unmolding.

CHOCOLATE TRUFFLE TORTE

YIELD: TWELVE 1.5 FL OZ/45 ML TORTES

INGREDIENT	U.S.	METRIC
Butter	4¾ oz	130 g
Chocolate, 61%, finely chopped	7¼ oz	205 g
Eggs	3	3
Vanilla extract	1 tsp	5 mL
Sugar	4½ oz	120 g
Corn syrup	2½ oz	70 g

1. Bring the butter to a simmer and pour over the chocolate. Stir gently to melt completely.

2. Combine the eggs, sugar, corn syrup, salt, and vanilla extract in a bowl and heat over a pan of barely simmering water while gently mixing, to 140°F/60°C.

3. Remove the bowl from the pan of water and whip the mixture on medium speed until light in color and texture.

4. With the mixture on medium speed, stream in the warm chocolate mixture.

5. Divide the batter evenly among twelve small flexi muffin molds, filling each about halfway.

6. Bake in a preheated 220°F/104°C convection oven until just set, 20 to 25 minutes, or until it just starts to puff around the edges.

CARROT CAKE

MAKES 6 CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Sugar	4 lb 4 oz	2.04 kg
Salt	1¼ oz	40 g
Bread flour	2 lb 2 oz	960 g
Ground cinnamon	1¼ oz	40 g
Baking powder	½ oz	14 g
Baking soda	1¼ tsp	11 g
Eggs	2 lb 6 oz	1.07 kg
Vegetable oil	1 lb 14 oz	850 g
Carrots, grated	2 lb 8 oz	1.07 kg
Walnuts, chopped	12 oz	340 g

1. Coat the pans with a light film of fat and line them with parchment circles.

2. Combine the sugar and salt. Sift together the flour, cinnamon, baking powder, and baking soda.

3. Whip the eggs with the whip attachment on medium speed until thick, about 8 minutes. Increase the mixer speed to high and continue whipping until the eggs thicken to the ribbon stage, about 8 minutes.

4. Gradually add the oil, whipping on high speed until evenly blended.

5. Gradually add the sugar mixture, whipping at medium speed. Add the sifted flour mixture, mixing on low speed until just incorporated.

6. Turn off the mixer and fold in the grated carrots and chopped walnuts.

7. Scale 1 lb 3 oz/540 g batter into each prepared pan.

8. Bake at 350°F/177°C until a skewer inserted near the center of the cake comes out clean, about 50 minutes.

9. Cool the cakes in the pans for a few minutes, then unmold onto racks to cool completely.

VARIATION

CHOCOLATE BEET CAKE *Substitute 1 lb 12 oz/790 g bread flour and 6 oz/170 g cocoa powder for the 2 lb 2 oz/960 g bread flour and replace the grated carrots with 2 lb/910 g grated beets.*

ROULADE

MAKES 1 FULL SHEET PAN

INGREDIENT	U.S.	METRIC
Egg yolks	8 oz	230 g
Sugar	6 oz	170 g
Vanilla extract	1 tbsp	15 mL
Egg whites	8 oz	230 g
Bread flour, sifted	6 oz	170 g
Vegetable oil	1 oz	30 g

1. Line a sheet pan with parchment paper.

2. Whip together the egg yolks, 2 oz/60 g of the sugar, and the vanilla with the whip attachment on high speed until thick and light in color, about 5 minutes.

3. Whip the egg whites on medium speed with a clean whip attachment until frothy. Gradually add the remaining 4 oz/110 g sugar while continuing to whip, then whip until medium peaks form.

4. Gently blend one-third of the beaten egg whites into the egg yolk mixture to lighten it to a similar consistency as the beaten egg whites. Gently and quickly fold in the remaining egg whites.

5. Gradually fold in the sifted flour. Temper in the oil by mixing with a small amount of the batter and then adding it back to the rest and blending until fully combined.

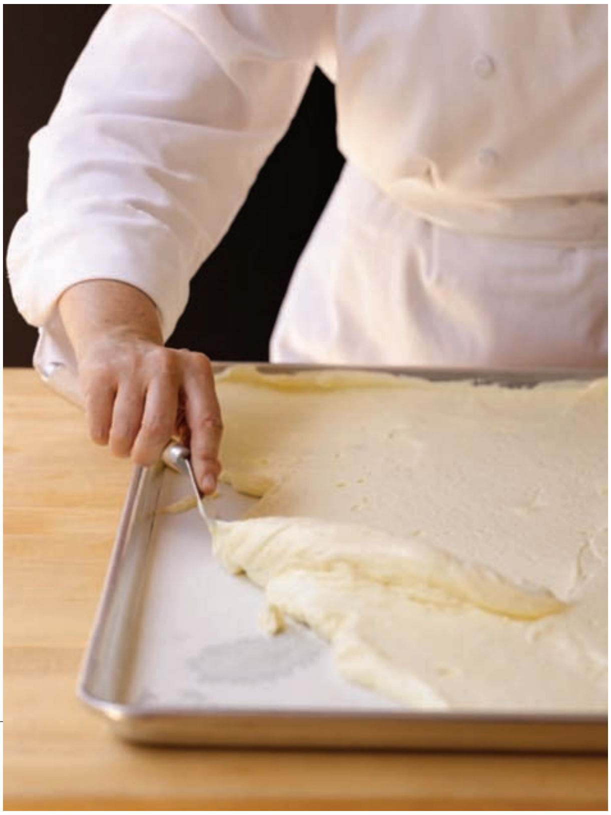
6. Spread the batter in the prepared sheet pan. It is important that it is spread evenly.

7. Bake at 400°F/204°C until the cake springs back when touched, 7 to 10 minutes.

8. Immediately unmold the cake onto a clean sheet pan. Cool completely.

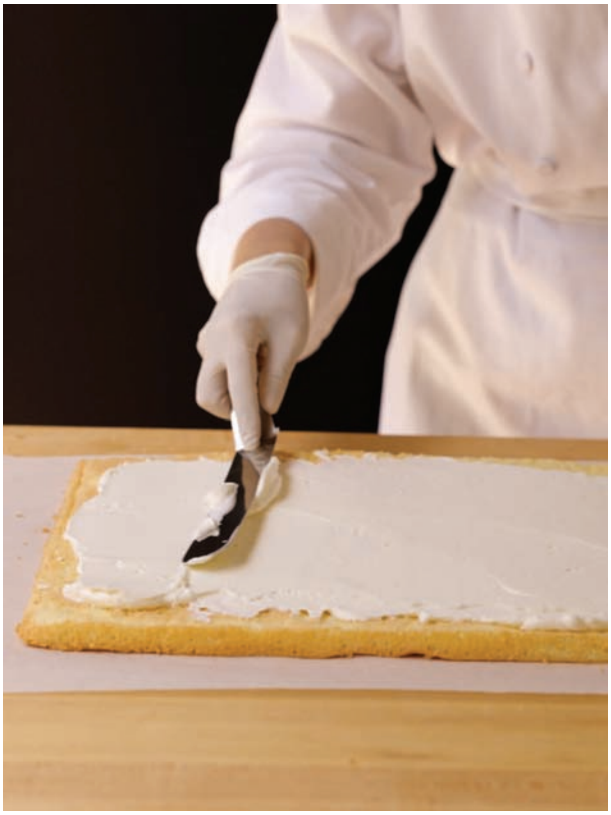
LEFT: *Pour the batter into the prepared pan.*

RIGHT: *Spread the batter evenly.*

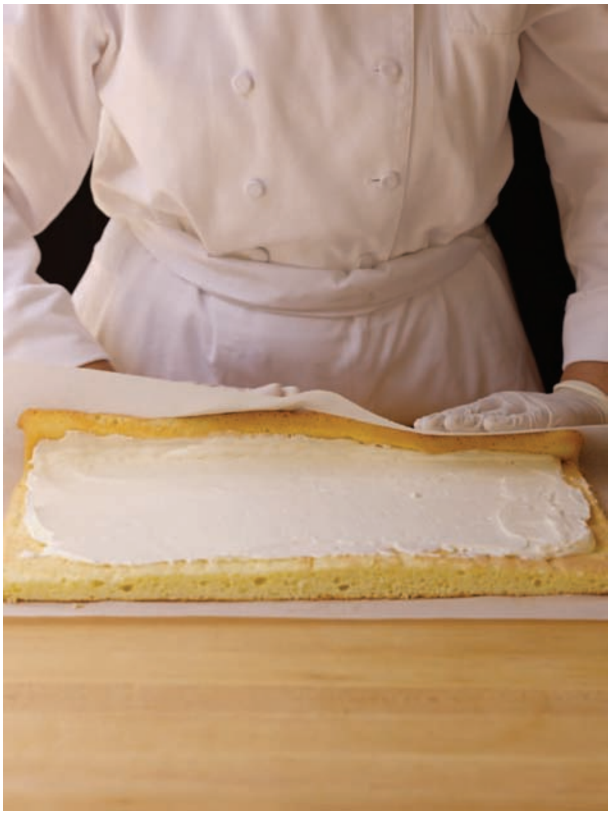


TOP LEFT: *Be sure to spread the batter into the corners, creating an even sheet of sponge cake.*

TOP RIGHT: *The cooled roulade is ready to be filled.*



BOTTOM LEFT: *Spread the filling evenly across the roulade sponge.*



BOTTOM RIGHT: *Gently roll the roulade, using the parchment to guide the rolling.*

CHOCOLATE ROULADE

MAKES 2 FULL SHEET PANS

INGREDIENT	U.S.	METRIC
Cake flour	4 oz	110 g
Cocoa powder	4 oz	110 g
Egg yolks	1 lb	450 g
Sugar	8 oz	230 g
Vanilla extract	2 tsp	10 mL
Egg whites	1 lb	450 g

1. Line the sheet pans with parchment paper.

2. Sift together the flour and cocoa powder.

3. Whip together the egg yolks, 2½ oz/70g of the sugar, and the vanilla with the whip attachment on high speed until thick and light in color, about 5 minutes.

4. Whip the egg whites on medium speed with a clean whip attachment until frothy. Gradually add the remaining 5½ oz/160 g sugar while continuing to whip, then whip until medium peaks form.

5. Working by hand, gently blend one-third of the beaten egg whites into the egg yolk mixture to lighten it to a similar consistency as the beaten egg whites. Gently and quickly fold in the remaining egg whites.

6. Gradually fold in the sifted ingredients.

7. Spread the batter in the prepared sheet pans.

8. Bake at 400°F/204°C until the cake springs back when touched, 7 to 10 minutes.

9. Immediately unmold each cake onto a clean sheet pan. Cool completely.

CHOCOLATE SOUFFLÉ CAKE

MAKES 6 CAKES (9 IN/23 CM EACH)

INGREDIENT	U.S.	METRIC
Bittersweet chocolate, finely chopped	5 lb 7 oz	2.47 kg
Butter	2 lb 7 oz	1.11 kg
Vanilla extract	1 oz	30 g
Salt	½ oz	14 g
Egg yolks	3 lb 6 oz	1.53 kg
Eggs	12 oz	340 g
Sugar	1 lb 14 oz	850 g
Grand Marnier	12 oz	340 g
Egg whites	3 lb 6 oz	1.53 kg

1. Line the bottoms of the cake pans with buttered parchment paper. Line the sides of the cake pans with buttered parchment strips that extend 3 in/8 cm above the top of the pan to form a collar.

2. Melt the chocolate and butter together in a double boiler, whisking gently to blend. Cool completely. Stir in the vanilla and salt.

3. Whip the egg yolks, eggs, and 10 oz/280 g of the sugar with the whip attachment on high speed until light, scraping down the bowl as needed, about 5 minutes.

4. Add the Grand Marnier and whip until incorporated.

5. In a separate bowl, whip the egg whites on medium speed with a clean whip attachment until frothy. Gradually add the remaining 1 lb 4 oz/570 g sugar and continue to whip until medium peaks form.

6. Fold one-third of the beaten egg whites into the yolk mixture to lighten it to a similar consistency as the beaten egg whites. Fold in the chocolate mixture, then fold in the remaining egg whites.

7. Pour the batter into the prepared pans.

8. Bake at 375°F/191°C until set, about 35 minutes.

9. Cool the cakes in the pans completely before unmolding.

DOBOS SPONGE

MAKES 48 LAYERS (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Egg yolks	2 lb 8 oz	1.13 kg
Sugar	2 lb	910 g
Vanilla extract	1 tbsp	15 mL
Egg whites	3 lb 8 oz	1.59 kg
Cake flour, sifted	2 lb	910 g
Butter, melted	10 oz	280 g

1. Draw forty-eight 8-in/20-cm circles on sheets of parchment, using a cake circle or pan as a guide. Place the parchment with the ink or pencil side down so it does not come in contact with the batter.

2. Beat the egg yolks, 10½ oz/300 g of the sugar, and the vanilla with the whip attachment on high speed until pale and thick, about 5 minutes.

3. Whip the egg whites on medium speed with a clean whip attachment until soft peaks form. Gradually add the remaining 2½ oz/610 g sugar while continuing to whip, then whip until medium peaks form.

4. Fold one-third of the beaten egg whites into the yolk mixture to lighten it to a similar consistency as the beaten egg whites. Gently and quickly fold in the remaining egg whites.

5. Fold in the sifted flour.

6. Fold in the melted butter.

7. Using an offset spatula, spread 3½ oz/100 g batter evenly inside each of the traced circles.

8. Bake at 425°F/218°C until light golden brown, 5 to 7 minutes.

9. Immediately transfer the sponge circles to cooling racks. Cool completely.

HAZELNUT SPONGE CAKE

MAKES 6 CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Cake flour	11 oz	310 g
Bread flour	4 oz	110 g
Ground cinnamon	1 tsp	2 g
Hazelnuts, toasted and finely ground	11 oz	310 g
Egg yolks	1 lb 14 oz	850 g
Confectioners' sugar, sifted	9 oz	260 g
Vanilla extract	2 tsp	10 mL
Lemon zest, grated	1 tbsp	9 g
Salt	1½ tsp	9 g
Egg whites	1 lb 14 oz	850 g
Granulated sugar	9 oz	260 g

1. Coat the cake pans with a light film of fat and line them with parchment circles.

2. Sift together the cake flour, bread flour, and cinnamon. Combine the hazelnuts with the sifted dry ingredients.

3. Whip together the egg yolks, confectioners' sugar, vanilla, lemon zest, and salt with the whip attachment on high speed until thick and light in color, about 5 minutes.

4. Whip the egg whites on medium speed with a clean whip attachment until soft peaks form. Gradually add the granulated sugar while continuing to whip until medium peaks form.

5. Gently blend one-third of the beaten egg whites into the egg yolk mixture to lighten it to a similar consistency as the beaten egg whites. Gently and quickly fold in the remaining egg whites.

6. Gradually fold in the dry ingredients.

7. Scale 1 lb/450 g batter into each prepared cake pan.

8. Bake at 350°F/177°C until the center of a cake is firm to the touch, 25 to 30 minutes.

9. Cool the cakes in the pans for a few minutes, then unmold onto racks to cool completely.

PISTACHIO SPONGE

MAKES 1 FULL SHEET PAN

INGREDIENT	U.S.	METRIC
Almond paste	8 oz	230 g
Pistachio paste	2 oz	60 g
Confectioners' sugar	9 oz	260 g
Egg yolks	6 oz	170 g
Eggs	3 oz	90 g
Egg whites	10 oz	280 g
Granulated sugar	1 oz	30 g
Cake flour, sifted	7 oz	200 g
Clarified butter, melted	2 oz	60 g

1. Line a sheet pan with parchment paper.

2. Mix together the almond paste, pistachio paste, and confectioners' sugar with the paddle attachment on medium speed until well combined.

3. Whip together the egg yolks, eggs, and the nut paste–confectioners' sugar mixture with the whip attachment on high speed until thick and light in color, about 5 minutes.

4. Whip the egg whites on medium speed with a clean whip attachment until frothy. Gradually add the granulated sugar while continuing to whip, then whip until medium peaks form.

5. Gently blend one-third of the beaten egg whites into the egg yolk mixture to lighten it to a similar consistency to the beaten egg whites. Gently and quickly fold in the remaining egg whites.

6. Gradually fold in the flour.

7. Fold in the clarified butter.

8. Spread the batter in the prepared sheet pan.

9. Bake at 400°F/204°C until the cake springs back when touched, 7 to 10 minutes.

10. Immediately unmold the cake onto a clean sheet pan. Cool completely.

MADELEINE SPONGE

MAKES 2 FULL SHEET PANS

INGREDIENT	U.S.	METRIC
Butter	1 lb 4 oz	570 g
All-purpose flour	1 lb 8 oz	680 g
Confectioners' sugar	12 oz	340 g
Baking powder	¾ oz	20 g
Salt	1½ tsp	9 g
Eggs	1 lb 8 oz	680 g
Milk	5 oz	140 g
Invert sugar	12 oz	340 g
Vanilla extract	1 tbsp	15 mL

1. Line the sheet pans with parchment paper.

2. Melt the butter to 105°F/41°C.

3. Sift together the flour, confectioners' sugar, baking powder, and salt.

4. Mix together the eggs, milk, invert sugar, and vanilla with the paddle attachment on medium speed until smooth, about 5 minutes. Add the dry ingredients and mix on low speed until just incorporated. Add the melted butter and mix until incorporated.

5. Spread 3 lb 2 oz/1.42 kg of batter into each of the prepared sheet pans.

6. Bake in a 350°F/177°C convection oven until light golden brown, 10 to 12 minutes.

7. Immediately unmold each cake onto a clean sheet pan. Cool completely.

HAVANA CAKE

MAKES 6 CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
NUT BATTER		
Bread flour	9 oz	260 g
Hazelnuts, toasted and finely ground	1 lb 1 oz	480 g
Almond paste	15 oz	430 g
Sugar	15 oz	430 g
Butter, soft	13 oz	370 g
Salt	½ tsp	3 g
Vanilla extract	1 tbsp	15 mL
Eggs	1 lb 3 oz	540 g
CHOCOLATE BATTER		
Cocoa powder	5½ oz	160 g
Ground cinnamon	½ oz	14 g
Hazelnuts, toasted and finely ground	1 lb 7 oz	650 g
Salt	½ tsp	3 g
Egg whites	1 lb 12 oz	790 g
Sugar	1 lb 9 oz	710 g
Vanilla extract	1 tbsp	15 mL

1. Lightly butter the cake pans and line them with parchment circles.

2. To prepare the nut batter, sift the flour into a bowl. Blend in the ground hazelnuts.

3. Cream together the almond paste, sugar, butter, salt, and vanilla with the paddle attachment on medium speed, scraping down the bowl as needed, until the mixture is smooth and light in color, about 5 minutes. Blend the eggs and add in three additions, mixing on medium speed until fully incorporated after each addition and scraping down the bowl as needed. Add the dry ingredients, mixing on low speed until just incorporated.

4. To prepare the chocolate batter, sift together the cocoa powder and cinnamon. Blend in the ground hazelnuts. Stir in the salt.

5. Whip the egg whites with the whip attachment on medium speed until soft peaks form. Gradually add the sugar while continuing to whip, then whip until stiff peaks form.

6. Turn off the mixer and fold the dry ingredients gradually into the whipped egg whites. Fold in the vanilla.

7. Spread 6¾ oz/190 g of the chocolate batter in an even layer at the bottom of each pan. Pipe 14½ oz/410 g of the nut batter through a pastry bag fitted with a large plain tip in a spiral on top of the chocolate batter, and spread into an even layer. Spread another 6¾ oz/190 g of the chocolate batter on top, and smooth the top.

8. Bake at 350°F/177°C until a skewer inserted near the center of the cake comes out clean, about 45 minutes.

9. Cool the cakes in the pans for a few minutes, then unmold onto racks to cool completely.

FLOURLESS SPONGE

MAKES 3 FULL SHEET PANS

INGREDIENT	U.S.	METRIC
Egg yolks	2 lb	910 g
Salt	Pinch	Pinch
Vanilla extract	1 tsp	5 mL
Egg whites	2 lb	910 g
Sugar	2 lb	910 g
Dutch-process cocoa powder, sifted	10 oz	280 g

1. Line the sheet pans with parchment paper.

2. Whip together the egg yolks, salt, and vanilla with the whip attachment on high speed, until thick and light in color, about 5 minutes.

3. Whip the egg whites on medium speed with a clean whip attachment until frothy. Gradually add the sugar while continuing to whip, then whip until stiff peaks form.

4. Gently blend one-third of the beaten egg whites into the egg yolk mixture to lighten it to a similar consistency as the beaten egg whites. Gently and quickly fold in the remaining egg whites.

5. Gradually fold in the cocoa powder.

6. Spread the batter in the prepared sheet pans.

7. Bake at 400°F/204°C until the cake springs back when touched, 7 to 10 minutes.

8. Immediately unmold the cakes onto clean sheet pans. Cool completely.

SPANISH VANILLA CAKE

MAKES 6 CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Bread flour	1 lb 14 oz	850 g
Almonds, toasted and ground	1 lb 14 oz	850 g
Chocolate Shavings (see page 989)	12 oz	340 g
Almond paste	2 lb 7 oz	1.11 kg
Lemon zest, grated	1 oz	30 g
Vanilla extract	3 oz	90 g
Salt	1½ tsp	9 g
Egg yolks	1 lb 8 oz	680 g
Egg whites	2 lb 10 oz	1.19 kg
Sugar	2 lb 4 oz	1.02 kg
Butter, melted and kept warm	15 oz	430 g

1. Lightly butter the cake pans and line them with parchment circles.

2. Mix together the bread flour, toasted almonds, and chocolate shavings.

3. Cream together the almond paste, lemon zest, vanilla, and salt with the paddle attachment, starting on low speed and increasing to medium speed and scraping down the bowl as needed, until smooth, about 5 minutes.

4. Blend the egg yolks and add in three additions, scraping down the bowl as needed.

5. Whip the egg whites with the whip attachment on medium speed until soft peaks form. Gradually add the sugar while continuing to whip, then whip until medium-soft peaks form.

6. Gently blend one-third of the beaten egg whites into the almond paste mixture to lighten it to a similar consistency as the beaten egg whites. Gently fold in the remaining egg whites.

7. Gradually fold in the flour mixture until just incorporated. Fold in the melted butter.

8. Scale 1 lb 15 oz/880 g batter into each prepared cake pan.

9. Bake at 350°F/177°C until the center of the cake springs back when touched, 35 to 40 minutes.

10. Cool the cakes in the pans for a few minutes, then unmold onto racks to cool completely.

CHOCOLATE ALMOND CAKE

MAKES 6 CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Bread flour	10 oz	280 g
Almonds, toasted and finely ground	1 lb 12 oz	790 g
Butter, soft	1 lb 12 oz	790 g
Confectioners' sugar	1 lb 12 oz	790 g
Egg yolks	1 lb 5 oz	600 g
Eggs	13 oz	370 g
Bittersweet chocolate, melted	2 lb 1 oz	940 g
Egg whites	1 lb 12 oz	790 g

1. Coat the cake pans with a light film of fat and line them with parchment circles.

2. Combine the flour and the almonds.

3. Cream together the butter and 1 lb 4 oz/570 g of the confectioners' sugar with the paddle attachment, starting on low speed and increasing to medium speed and scraping down the bowl as needed, until the mixture is smooth and light in color, about 5 minutes.

4. Whisk together the egg yolks and eggs and warm them over a hot water bath, whisking constantly, to 85°F/29°C. Gradually add the warm eggs to the creamed mixture, mixing on low speed and scraping down the bowl as needed, until evenly blended.

5. Add the chocolate all at once and mix, scraping down the bowl periodically, until evenly blended.

6. Whip the egg whites with the whip attachment on medium speed until soft peaks form. Gradually add the remaining 8 oz/230 g confectioners' sugar while continuing to whip, then whip until medium peaks form.

7. Fold the egg whites into the chocolate mixture. Fold in the dry ingredients.

8. Scale 2 lb 8 oz/1.13 kg batter into each prepared cake pan.

9. Bake at 375°F/191°C until the center of the cake is firm to the touch, 45 to 50 minutes.

10. Cool the cakes in the pans for a few minutes, then unmold onto racks to cool completely.

COCONUT JOCONDE

MAKES 1 FULL SHEET PAN

INGREDIENT	U.S.	METRIC
Pastry flour	2 oz	60 g
Desiccated coconut, ground	8 oz	230 g
Eggs	10½ oz	300 g
Confectioners' sugar	6 oz	170 g
Egg whites	6 oz	170 g
Granulated sugar	2 oz	60 g
Butter, melted	2 oz	60 g

1. Line a sheet pan with parchment paper.

2. Sift the pastry flour and toss it with the coconut.

3. Whip together the eggs and confectioners' sugar with the whip attachment on high speed until thick and light in color, about 5 minutes.

4. Whip the egg whites on medium speed with a clean whip attachment until frothy. Gradually add the granulated sugar while continuing to whip, then whip until medium-stiff peaks form.

5. Gently blend one-third of the beaten egg whites into the egg yolk mixture to lighten it to a similar consistency as the beaten egg whites. Gently and quickly fold in the remaining egg whites.

6. Gradually fold in the flour–coconut mixture.

7. Stream in the melted butter while folding the batter.

8. Spread the batter evenly in the prepared sheet pan.

9. Bake at 400°F/204°C until the cake springs back when touched, 7 to 10 minutes.

10. Immediately unmold the cake onto a clean sheet pan. Cool completely.

PATTERNED JOCONDE SPONGE

MAKES 2 FULL SHEET PANS

INGREDIENT	U.S.	METRIC
STENCIL BATTER		
Butter, soft	3½ oz	100 g
Confectioners' sugar, sifted	3½ oz	100 g
Egg whites	4 oz	110 g
Cake flour, sifted	2 oz	60 g
Cocoa powder, sifted	1 oz	30 g
SPONGE BATTER		
Cake flour, sifted	3 oz	90 g
Blanched almond flour	10 oz	280 g
Eggs	12 oz	340 g
Confectioner's sugar	5 oz	140 g
Egg whites	8 oz	230 g
Granulated sugar	6 oz	170 g
Butter, melted and cooled	2 oz	60 g

1. To prepare the stencil batter, cream the butter and confectioners' sugar together in a food processor fitted with a metal blade.

2. Add the egg whites gradually with the food processor running.

3. Blend in the flour and cocoa powder.

4. Place a stencil on a silicone mat or sheet of parchment paper. Spread the batter in a thin layer over the stencil, scrape off the excess batter, and remove the stencil, leaving behind the stenciled batter pattern. (A comb is used on the following page.) Transfer the silicone mat or parchment paper to a flat sheet pan and freeze. Repeat with the remaining batter on a second mat.

5. To prepare the sponge batter, combine the cake flour with the almond flour.

6. Whip the eggs and confectioners' sugar with the whip attachment on high speed until very light, 5 to 10 minutes.

7. Whip the egg whites on medium speed with a clean whip attachment until frothy. Gradually add the granulated sugar while continuing to whip, then whip until medium peaks form.

8. Fold one-third of the beaten egg whites into the yolk mixture to lighten it to a similar consistency as the beaten egg whites. Gently but thoroughly fold in the remaining beaten egg whites.

9. Gradually fold in the flour mixture.

10. Fold in the cool melted butter. Run a wire whip through the batter several times to deflate it slightly.

TOP RIGHT: *A comb is used to apply the pattern on a silicone mat.*

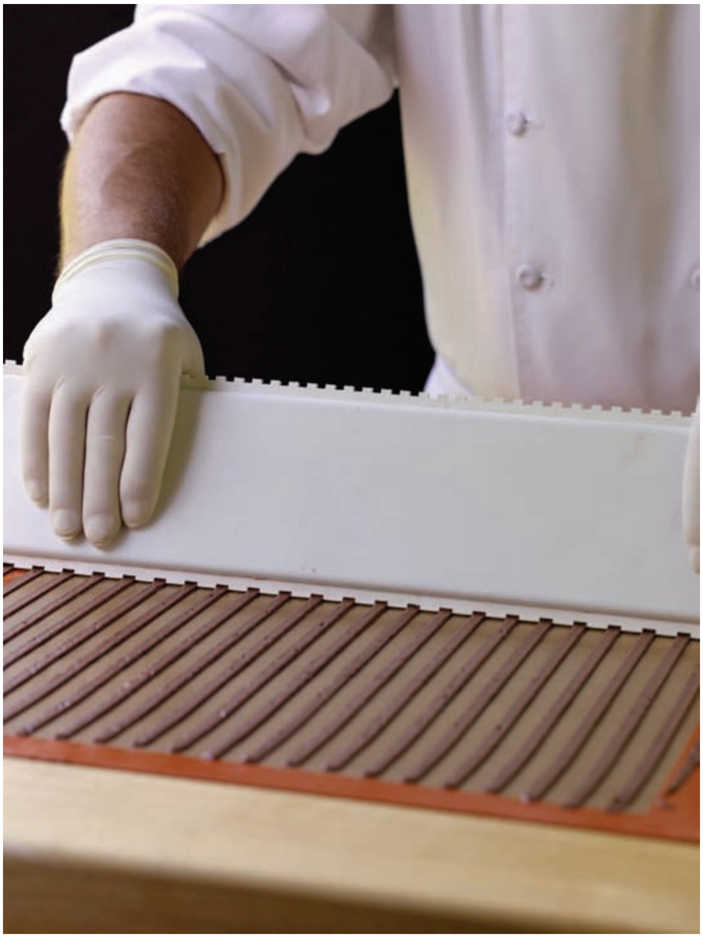
BOTTOM LEFT: *The batter is poured over the pattern and gently spread evenly across.*

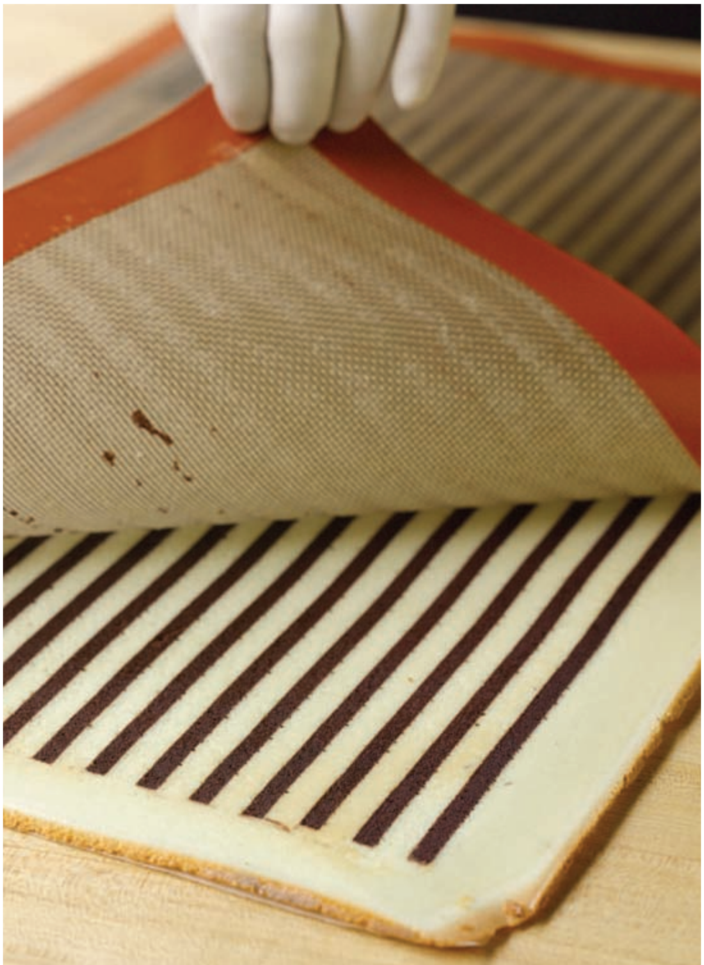
BOTTOM RIGHT: *The pattern remains sharp and distinct after baking.*

11. Divide the batter evenly between the prepared pans, spreading it quickly, before the stencils melt, but gently to avoid losing volume.

12. Bake at 400°F/204°C until the cakes are a light golden brown, 5 to 7 minutes.

13. Cool the cakes in the pans for a few minutes, then unmold onto racks to cool completely.





JOCONDE FOR STICKY RICE ENTREMET

MAKES 1 LB 11¼ OZ/775 G

INGREDIENT	U.S.	METRIC
Almond flour	5¾ oz	160 g
Confectioners' sugar	5¾ oz	160 g
Cake flour	1½ oz	40 g
Eggs	7½ oz	210 g
Egg whites	5 oz	140 g
Granulated sugar	¾ oz	20 g
Butter, melted	1 oz	30 g
Décor Paste (page 390)	1 lb 5 oz	600 g

1. Preheat convection oven to 375°F/191°C.

2. Combine the almond flour, confectioner's sugar, and cake flour in the bowl of a mixer.

3. Add half of the eggs and mix until well incorporated.

4. Add the remaining eggs and beat for 5 minutes.

5. Whip the egg whites until frothy. Stream in the sugar while continuing to whip to medium peaks. Fold a portion of the meringue (about ⅓) into the almond mixture to lighten it. Gently fold in the remaining meringue.

6. Stream in the butter, folding well. Spread into an even layer in a half sheet pan that has been lined with a silicone baking mat and decorated with the décor paste as desired.

7. Bake in a preheated 375°F convection oven until light golden, 5 to 7 minutes. Cool to room temperature.

CHIFFON SPONGE

MAKES 8 CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Cake flour	3 lb 3 oz	1.45 kg
Baking powder	2¼ oz	64 g
Salt	¾ oz	20 g
Sugar	2 lb 12 oz	1.25 g
Egg yolks	2 lb	910 g
Vegetable oil	5 oz	140 g
Water, warm	1 lb 8 oz	680 g
Vanilla extract	1 oz	30 g
Egg whites	2 lb	910 g
Lemon juice	2 oz	60 g
Cream of tartar	1½ tsp	6 g

1. Coat the cake pans with a light film of fat and line them with parchment circles.

2. Sift together the flour, baking powder, and salt. Combine with 14½ oz/410 g of the sugar in the bowl of a mixer.

3. Combine the yolks, oil, water, and vanilla.

4. Add the yolk mixture slowly to the dry ingredients while mixing with the whip attachment on medium speed. After a paste has formed, scrape down the sides of the bowl. Continue adding the yolk mixture until all is incorporated. Beat for an additional 2 minutes on medium speed.

5. Whip the egg whites on medium speed with a clean whip attachment until frothy. Gradually add the remaining 1 lb 13½ oz/840 g sugar, the lemon juice, and the cream of tartar while continuing to whip, then whip until medium peaks form.

6. Fold one-third of the beaten egg whites into the yolk mixture to lighten it to a similar consistency as the beaten egg whites. Gently but thoroughly fold in the remaining beaten egg whites.

7. Fill each pan slightly more than halfway with batter.

8. Bake at 350°F/177°C until the cake springs back when touched, 20 to 30 minutes.

9. Cool in the pans for a few minutes, then unmold onto racks to cool completely.

VARIATIONS

LEMON CHIFFON SPONGE *Add the grated zest of 2 lemons in step 3 and substitute lemon juice for the water. Follow the remaining method as stated above.*

LIME CHIFFON SPONGE *Add the grated zest of 3 limes in step 3 and substitute lime juice for the water. Follow the remaining method as stated above.*

ORANGE CHIFFON SPONGE *Add the grated zest of 1 orange in step 3 and substitute orange juice for the water. Follow the remaining method as stated above.*

CHIFFON

MAKES 6 CAKES (8 IN/20CM EACH)

INGREDIENT	U.S.	METRIC
Eggs	1 lb 10 oz	740 g
Sugar	12 oz	340 g
Cake flour, sifted	12 oz	340 g
Oil	4 oz	110 g

1. Preheat convection oven to 350°F/177°C.
2. Combine eggs and sugar in a mixing bowl and stir over a hot water bath until sugar is dissolved and mixture is warmed to 110°F/43°C.
3. In a stand mixer on medium speed, stabilize the egg mixture by whipping for 15 minutes.
4. Quickly and gently fold the flour into the foam. Temper the oil into the batter.
5. Pour the batter evenly into greased, parchment-lined 8-in/20-cm cake pans.
6. Bake until lightly golden, 5 to 7 minutes. Cool to room temperature.

CHOCOLATE CHIFFON SPONGE

MAKES 8 CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Cake flour	3 lb 2 oz	1.42 kg
Dutch-process cocoa powder	1 lb 4 oz	570 g
Baking powder	2½ oz	70 g
Baking soda	1¼ oz	35 g
Salt	1 oz	30 g
Sugar	1 lb 2 oz	510 g
Egg yolks	1 lb 14 oz	850 g
Vegetable oil	1 lb 8 oz	680 g
Water, warm	2 lb 12 oz	1.25 kg
Vanilla extract	1 oz	30 g
Bittersweet chocolate, melted and cooled	1 lb 4 oz	570 g
Egg whites	3 lb 2 oz	1.42kg
Cream of tartar	½ oz	14 g

1. Coat the cake pans with a light film of fat and line them with parchment circles.

2. Sift together the flour, cocoa powder, baking powder, baking soda, and salt. Combine with 6 oz/170 g of the sugar in the mixer.

3. Combine the yolks, oil, water, vanilla, and chocolate.

4. Add the yolk mixture slowly to the dry ingredients while mixing with the whip attachment on medium speed. After a paste has formed, scrape down the sides of the bowl. Continue adding the yolk mixture until all is incorporated. Beat for an additional 2 minutes on medium speed.

5. Whip the egg whites medium speed with a clean whip attachment on until frothy. Gradually add the remaining 12 oz/340 g sugar and the cream of tartar while continuing to whip, then whip until medium peaks form.

6. Fold one-third of the beaten egg whites into the yolk mixture to lighten it to a similar consistency as the beaten egg whites. Gently but thoroughly fold in the remaining beaten egg whites.

7. Fill each pan slightly more than halfway with batter.

8. Bake at 350°F/177°C until the cake springs back when touched, 20 to 30 minutes.

9. Cool in the pan for a few minutes, then unmold onto racks to cool completely.

CHOCOLATE CHIFFON

MAKES 1 FULL SHEET PAN

INGREDIENT	U.S.	METRIC
Cake flour	3¾ oz	110 g
Cocoa powder	½ oz	14 g
Sugar	7½ oz	210 g
Baking powder	1 tsp	4 g
Egg yolks	1¼ oz	40 g
Canola oil	3¾ oz	110 g
Water, room temperature	2¾ oz	80 g
Egg whites, room temperature	4½ oz	130 g

1. Line a sheet pan with a lightly greased silicone mat.

2. Sift together the flour, cocoa powder, 5 oz/142 g of sugar, and baking powder into a medium size bowl.

3. Meanwhile, emulsify the yolks, oil, and water by heating to 110°F/43°Cover a double boiler while whisking constantly.

4. Immediately add the dry ingredients to the yolks mixture and whisk to incorporate the ingredients and create a smooth batter.

5. Make a soft-peak French meringue (see page 464) with the whites and remaining sugar. Temper some of the batter, and then fold in the remaining batter until fully incorporated.

6. Evenly spread the batter onto the prepared sheet pan.

7. Bake in a convection oven at 375°F/191°C for about 8 minutes or until slightly darker.

9. Cool in the pan for a few minutes, then unmold onto racks to cool completely.

MILK CHOCOLATE CHIFFON

MAKES 1 LB 8¾ OZ/700 G

INGREDIENT	U.S.	METRIC
Cocoa powder	½ oz	14 g
Sugar	7½ oz	210 g
Baking powder	½ tsp	2 g
Cake flour	4¼ oz	120 g
Egg yolks	2	2
Canola oil	3¾ oz	110 g
Water	2¾ oz	80 g
Egg whites	4½ oz	130 g

1. Preheat a convection oven to 325°F/163°C.
2. Sift together the cocoa powder, 5 oz/140 g of sugar, baking powder, and cake flour.
3. Meanwhile, combine the yolks, oil, and water. Warm up the ingredients and whisk until a light foam has formed.
4. Add the wet ingredients to the dry ingredients and whisk to blend.
5. Make a soft-peak French meringue (see page 464) with the remaining sugar and egg whites. Incorporate the meringue into the batter.
6. Weigh 7½ oz/210 g of batter and spread into a quarter sheet pan lined with parchment.
7. Bake for 5 minutes or until lightly golden.
8. Cool in the pan for a few minutes, then unmold onto racks to cool completely.

GREEN TEA CHIFFON

MAKES 2 LB 3¼ OZ/1.02 KG

INGREDIENT	U.S.	METRIC
Matcha green tea powder	¾ oz	20 g
Cake flour	6¼ oz	180 g
Sugar	11¼ oz	320 g
Baking powder	1 tsp	4 g
Egg yolks	3	3
Canola oil	5½ oz	160 g
Water	4 oz	110 g
Egg whites	6¾ oz	190 g

1. Preheat a convection oven to 375°F/191°C. Grease a full sheet pan and line with parchment paper.

2. Sift together the matcha, flour, 7½ oz/210 g of sugar, and baking powder, and set aside.

3. Meanwhile, combine the yolks, oil, and water. Warm up the ingredients and whisk until a light foam forms.

4. Add the wet ingredients to the dry ingredients and whisk to blend.

5. Make a soft-peak French meringue (see page 464) with the remaining sugar and egg whites. Fold into the batter.

6. Spread the batter over the prepared sheet pan.

7. Bake until light golden, 5 to 7 minutes.

8. Cool in the pan for a few minutes, then unmold onto racks to cool completely.

LEMON CAKE

MAKES 6 CAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
All-purpose flour	2 lb 13 oz	1.28 kg
Cornstarch	12 oz	340 g
Baking powder	1 oz	30 g
Butter, soft	3 lb 10½ oz	1.66 kg
Confectioners' sugar	2 lb 13 oz	1.28 kg
Lemon zest, grated	4 oz	110 g
Egg yolks	2 lb	910 g
Egg whites	2 lb	910 g
Granulated sugar	12½ oz	350 g
LEMON SYRUP		
Lemon juice	6 oz	170 g
Confectioners' sugar	2 lb	910 g

1. Coat the cake pans with a light film of fat and line them with parchment circles.

2. Sift together the flour, cornstarch, and baking powder.

3. Cream the butter, confectioners' sugar, and lemon zest with the paddle attachment, starting on low speed and increasing to medium speed and scraping down the bowl as needed, until the mixture is smooth and light in color, about 5 minutes.

4. Gradually add the egg yolks a few at a time, mixing on low speed until fully incorporated after each addition and scraping down the bowl as needed.

5. Whip the egg whites with the whip attachment on medium speed until frothy. Gradually add the granulated sugar while continuing to whip, then whip until medium peaks form.

6. Fold one-third of the beaten egg whites into the egg yolk mixture to lighten it to a similar consistency as the beaten egg whites. Gently fold in the remaining egg whites.

7. Gradually fold the sifted dry ingredients into the mixture.

8. Scale 2 lb 4 oz/1kg batter into each prepared cake pan. Gently tap the pans to release any air bubbles.

9. Bake at 350°F/177°C until a skewer inserted near the center of the cake comes out clean, about 1 hour.

10. To prepare the syrup, whisk together the lemon juice and confectioners' sugar in a stainless-steel bowl until smooth.

11. Cool the cakes in the pans for a few minutes, then unmold onto racks.

12. Brush the cakes with the lemon glaze while they are still warm.

ALMOND APPLE FINANCIERS

MAKES 84 FINANCIERS (1 BY 2 IN/3 BY 5 CM EACH)

INGREDIENT	U.S.	METRIC
POACHED APPLES		
Lemon juice	3 oz	90 g
Water	1 lb 1¾ oz	500 g
Sugar	4½ oz	130 g
Golden Delicious apples	10½ oz	300 g
CAKE		
Almond paste	3½ oz	100 g
Sugar	3½ oz	100 g
Butter	3½ oz	100 g
Eggs, room temperature	4½ oz	130 g
Cake flour, sifted	1½ oz	40 g
Dates, ¼-in/0.6-cm dice	3½ oz	100 g

1. Place the flexible financier molds on a sheet pan.

2. To poach the apples, combine the lemon juice, water, and sugar in a saucepan, bring to a boil, and boil for 15 seconds or until the sugar is dissolved. Reduce the heat to a simmer.

3. Meanwhile, peel and core the apples. Cut the apples in half, then slice each half into 6 wedges.

4. Place the apples in the syrup and simmer them for 8 minutes. Remove from the heat and let the apples sit in the syrup until cool. The apples should be slightly translucent at the edges but not fully cooked.

5. Refrigerate the apples in their poaching liquid until about 1 hour before use. Drain the apples and discard the syrup. Air-dry the apples on a rack for 1 hour.

6. To make the cake, combine the almond paste and sugar in the mixer and mix with the paddle attachment on medium speed until pea-size particles form, about 5 minutes.

7. Add the butter to the almond paste mixture and cream on medium speed until smooth and light, about 7 minutes. Scrape down the bowl as needed.

8. Add the eggs in three additions, mixing until fully incorporated after each addition and scraping down the bowl as needed.

9. Add the sifted flour and mix on low speed until just incorporated. Do not overmix.

10. Place the batter in a pastry bag with a ½-in/1-cm hole cut at the bottom. Pipe into the flexible financier molds so they are three-quarters full.

11. Garnish each filled mold with 2 apple slices arranged in an S shape. Sprinkle diced dates on top.

12. Bake at 375°F/191°C until light golden, 18 to 20 minutes. Let cool for 15 to 20 minutes, wrap in plastic wrap, and freeze before unmolding.

13. Serve at room temperature. Store in an airtight container so the cake does not dry out.

ALMOND FINANCIERS

MAKES 1 LB 2 OZ/510 G BATTER

INGREDIENT	U.S.	METRIC
Butter	4½ oz	130 g
Sugar	4½ oz	130 g
Almond flour	1¾ oz	50 g
Bread flour	1 oz	30 g
Cake flour	1 oz	30 g
Salt	Pinch	Pinch
Egg whites, 70°F/21°C	4½ oz	130 g
Vanilla extract	1 tsp	5 mL
Honey	1 oz	30 g

1. Place the butter in a small nonreactive saucepot and make a beurre noisette.

2. Combine the sugar, almond flour, bread flour, cake flour, and salt in the bowl of a mixer. Mix with the paddle attachment on low speed until fully combined about 2 minutes.

3. Combine the eggs whites and vanilla in a small bowl. Add to the dry ingredients gradually and mix until just combined. Do not overmix.

4. Add the honey and mix until just combined, about 15 seconds.

5. Add the beurre noisette, as hot as possible, slowly and mix until incorporated. Let rest in an airtight container overnight.

CARAMELIZED APPLE FINANCIER

MAKES 10 CAKES (3 IN/8 CM EACH)

INGREDIENT	U.S.	METRIC
Caramel sauce	2 lb 7¾ oz	1.13 kg
Golden apples, peeled, halved, cored	12 to 14	12 to 14
Almond Financier (page 319)	1 lb 2 oz	510 g

1. Pour the caramel sauce into a full hotel pan. Preheat oven to 300°F/149°C.

2. Cut apples into ¼-in/0.6-cm slices, keeping each apple together.

3. Slightly fan each apple. Place each apple fan rounded side down into the caramel. Cover pan with aluminum foil and poke a few holes in the top.

4. Bake for 45 minutes or until apples are al dente.

5. Remove foil and finish baking until just tender, 15 to 20 minutes more.

6. Let cool at room temperature, cover, and refrigerate overnight.

7. Preheat the oven to 300°F/149°C.

8. Place apples in the oven until liquid is just loosened. Drain the liquid into a 2-qt/2-L container, cover and refrigerate until needed.

9. Preheat oven to 350°F/177°F.

10. Place ten 3-in/8-cm ring molds on a sheet pan with parchment paper underneath and spray with cooking spray.

11. Arrange sliced apples in the ring molds, filling them three-quarters of the way full. Using a spoon, lightly press down on the apples.

12. Pipe the financier batter on top, leaving a ½-in/1-cm border from the edge of the top of the molds.

13. Bake until financier is golden brown about 15 to 20 minutes.

14. Soak with some of the reserved caramel sauce right out of the oven.

15. Let cool completely. Run a paring knife around the inside edge of the ring mold, flip over, and unmold.

APPLE SPICE CAKE

MAKES SIX 5-INCH ROUND CAKES

INGREDIENT	U.S.	METRIC
Apple Superpomme	9 oz	260 g
Sugar	9 oz	250 g
Eggs	4 oz	110 g
Water	1¾ oz	50 g
Oil	3¾ oz	105 g
Salt	½ tsp	3 g
Cinnamon	½ tsp	1 g
Cake flour	8 oz	230 g

1. Preheat convection oven to 350°F/177°C.
2. Mix the Superpomme, sugar, eggs, water, and oil and bring to 115°F/46°C over medium heat.
3. Sift together the salt, cinnamon, and flour, and add to the apple mixture.
4. Place 7 oz/200 g batter into each of six 5-in/13-cm round silicone molds.
5. Bake for 5 to 10 minutes or until slightly golden brown. Allow to cool to room temperature before serving.

DACQUOISE

MAKES 10 TO 12 FLOWERS (3½ IN/9 CM IN DIAMETER)

INGREDIENT	U.S.	METRIC
Confectioners' sugar	4½ oz	130 g
Bread flour	½ oz	14 g
Almond flour	4½ oz	130 g
Egg whites	5¾ oz	160 g
Granulated sugar	½ oz	14 g
Confectioners' sugar, for dusting	As needed	As needed

1. Line a sheet pan with parchment paper. Trace twelve 3½-in/9-cm rounds on the paper and turn the paper over to avoid contact between the pen or marker and the batter.

2. Sift together the confectioners' sugar, bread flour, and almond flour.

3. Whip the egg whites with the whip attachment on medium speed until frothy. Gradually add the granulated sugar while continuing to whip, then whip on high speed until medium-stiff peaks form.

4. Gently and quickly fold the dry ingredients into the beaten egg whites.

5. Fill a pastry bag fitted with a #6 straight tip with the batter. Pipe flower petals within the traced rounds onto the parchment-lined sheet pan, meeting in the center of the circle for the beginning and end of each petal.

6. When finished piping, dust the batter with confectioners' sugar. Wait 10 minutes and dust again with confectioners' sugar.

7. Bake at 350°F/177°C until golden brown, 10 to 15 minutes.

8. Let the flowers cool on the pan for a few minutes, then remove from the pan and store in an airtight container until needed.

COCONUT DACQUOISE

MAKES 2 FULL SHEET PANS

INGREDIENT	U.S.	METRIC
Almond flour	3 oz	90 g
Cake flour	5 oz	140 g
Confectioners' sugar	1 lb 9 oz	710 g
Salt	Pinch	Pinch
Desiccated coconut	1 lb 4 oz	570 g
Egg whites	1 lb 14 oz	850 g
Granulated sugar	10 oz	280 g

1. Line the sheet pans with parchment paper.

2. Sift together the flours, confectioners' sugar, and salt, and combine with the coconut.

3. Whip the egg whites with the whip attachment on medium speed until frothy. Gradually add the granulated sugar while continuing to whip, then whip on high speed until medium peaks form.

4. Gently fold the dry ingredients into the beaten egg whites.

5. Spread 2 lb 13 oz/1.26 kg of batter into each of the prepared sheet pans.

6. Bake in a 350°F/177°C convection oven until the cake springs back when touched, 10 to 12 minutes. Cool completely, then remove from the pans and store in an airtight container until needed.

ALMOND DACQUOISE

MAKES 2 FULL SHEET PANS

INGREDIENT	U.S.	METRIC
Almond flour	1 lb 7 oz	650 g
Cake flour	5 oz	140 g
Confectioners' sugar	1 lb 9 oz	710 g
Salt	Pinch	Pinch
Egg whites	1 lb 14 oz	850 g
Granulated sugar	10 oz	280 g

1. Line the sheet pans with parchment paper.
2. Sift together the flours, confectioners' sugar, and salt.
3. Whip the egg whites with the whip attachment on medium speed until frothy. Gradually add the granulated sugar while continuing to whip, then whip on high speed until medium peaks form.
4. Gently fold the dry ingredients into the beaten egg whites.
5. Spread 2 lb 13 oz/1.26 kg of batter into each of the prepared sheet pans.
6. Bake in a 350°F/177°C convection oven until the cake springs back when touched, 10 to 12 minutes. Cool completely, then remove from the pans and store in an airtight container until needed.

SOFT HAZELNUT DACQUOISE

MAKES 1 HALF SHEET PAN

INGREDIENT	U.S.	METRIC
Confectioners' sugar	7 oz	200 g
Almond flour	3½ oz	100 g
Hazelnut flour	5¼ oz	150 g
All-purpose flour	1½ oz	40 g
Egg whites	10½ oz	300 g
Granulated sugar	2¾ oz	80 g

1. Line a half sheet pan with parchment paper.
2. Sift together the confectioners' sugar, almond flour, hazelnut flour and all-purpose flour.
3. Whip the egg whites with the whip attachment on medium speed until frothy. Gradually add the granulated sugar while continuing to whip, then whip on high speed until medium-stiff peaks form.
4. Gently fold the dry ingredients into the beaten egg whites.
5. Fill a pastry bag fitted with a #4 tip with the mixture. Pipe lines of meringue the width of the prepared sheet pan.
6. Bake at 360°F/182°C until golden brown, 10 to 12 minutes. Cool completely, then remove from the pan and store in an airtight container until needed.

DACQUOISE MERINGUE

MAKES 28 CAKES (2½ IN/6 CM EACH)

INGREDIENT	U.S.	METRIC
Granulated sugar	5½ oz	160 g
Egg whites	5½ oz	160 g
Confectioners' sugar	5½ oz	160 g
Almonds, toasted and ground	4½ oz	130 g
Cake flour	1 oz	30 g

1. Line a sheet pan with parchment paper. Trace twenty-eight 2½-in/6-cm rounds on the paper and turn the paper over to avoid contact between the pen or marker and the batter.
2. Whip together the granulated sugar and egg whites with the whip attachment on high speed until stiff peaks form, 8 to 10 minutes.
3. Sift together the confectioners' sugar, ground almonds, and cake flour. Gently fold them into the stiff egg whites with a rubber spatula until just combined.
4. Fill a pastry bag fitted with a #2 tip with the mixture. Begin piping in the center of each traced round, and in a circular motion work your way to the outside of the round.
5. Bake the meringue at 300°F/149°C until the meringue hardens, 12 to 15 minutes. Cool completely, then remove from the pan and store in an airtight container until needed.

SAVARIN

MAKES 24 CAKES (3 IN/8 CM EACH)

INGREDIENT	U.S.	METRIC
Bread flour	4 oz	110 g
Instant dry yeast	1 tsp	3 g
Milk, 90°F/32°C	4¼ oz	120 g
Salt	Pinch	Pinch
Eggs	7 oz	200 g
Butter, very soft	6 oz	170 g
Cake flour	8 oz	230 g
Vanilla extract (optional)	As needed	As needed

1. Combine the bread flour and yeast and mix with the paddle attachment on low speed until well combined.

2. Add the warmed milk and salt and mix on low speed until it forms a smooth paste. Do not overmix. Cover the mixing bowl with plastic wrap and ferment at 80° to 85°F/27° to 29°C until the dough has tripled in size, about 1 hour.

3. Place the bowl back on the mixer and add the eggs while mixing on low speed until the eggs are fully incorporated.

4. Add 3 oz/90 g of the butter and mix on low speed until smooth. Add 4 oz/110 g of the cake flour and mix until smooth. Add the remaining butter and flour and mix until smooth. Do not over mix.

5. Fill a pastry bag fitted with a #6 straight tip with the batter and pipe into flexible savarin molds, filling them three-quarters full.

6. Proof at 80° to 85°F/27° to 29°C until the dough has increased 1½ times in size, about 1¼ hours.

7. Bake at 390°F/199°C until evenly golden brown, about 25 minutes.

8. Let the cakes cool in the molds to room temperature. Once cool, wrap in plastic wrap and freeze the molds overnight. Thaw for 1 hour at room temperature before serving.

BISCUIT RUSSE

MAKES 56 BISCUITS (28 CAKES)

INGREDIENT	U.S.	METRIC
Ground almonds	1½ oz	40 g
Ground hazelnuts	1½ oz	40 g
Sugar	5¼ oz	150 g
Egg whites	5¼ oz	150 g
Confectioners' sugar	As needed	As needed

1. Line a sheet pan with parchment paper. Trace twenty-eight 2½-in/6-cm rounds on the paper and turn the paper over to avoid contact between the pen or marker and the batter.

2. Mix the ground almonds and hazelnuts with 1¾ oz/50 g of the sugar.

3. Place the egg whites in a bowl and whisk until frothy. Gradually add the remaining 3½ oz/100 g sugar while continuing to whisk, then whisk until soft, medium, or stiff peaks form, as desired. Gently fold the ground nut mixture into the beaten egg whites.

4. Fill a pastry bag fitted with a #4 tip with the batter. Begin piping in the center of each traced round, and in a circular motion work your way to the outside of the round.

5. Sprinkle confectioners' sugar over the piped biscuits, wait 10 minutes, and sprinkle them with confectioners' sugar again.

6. Bake in a 340°F/171°C convection oven until the biscuits are hard and golden brown, 10 to 12 minutes. Cool completely, then remove from the pan and store in an airtight container until needed.

11 COOKIES

The word cookie derives from a Dutch word that means "small cake." Using this as the contemporary definition, cookies can include anything from the classic chocolate chunk to the twice-baked biscotti to glazed and filigreed petits fours. Each type of cookie requires different shaping techniques such as rolling, stamping, and molding. Many are filled, glazed, or otherwise finished after baking.

GENERAL PAN PREPARATION FOR COOKIES

TO ENSURE PROPER BAKING and even spread, use only flat pans. Pans should usually be lined with either parchment paper or silicone baking mats. Some cookies, such as tuiles, bake best on silicone baking mats. If these are not available, butter and flour the pans (see page 333 for pan preparation for stenciled tuile cookies). Generally, however, flouring pans for baking cookies is not desirable, as the flour could prevent the full spread of a cookie. Greasing pans for cookies is also not commonly recommended, as the fat may cause excessive spreading and browning of the bottoms.

For cookies with a particularly high fat content that tend to brown easily, it is good practice to use two stacked sheet pans. Double-panning will create an air pocket that insulates the cookies, allowing for gentle heating of the bottoms.

Place cookies in orderly rows on the prepared pans, leaving enough room for them to spread. Stagger the rows to fit more cookies on the pan and to allow for better air circulation.

GENERAL COOLING INSTRUCTIONS FOR COOKIES

MOST COOKIES SHOULD BE removed from the pan as quickly as possible after baking to prevent further browning. Some cookies, however, are too soft to be removed immediately and should be allowed to cool briefly on the baking pan just until they have set enough to be transferred to a wire cooling rack. Cookies such as tuiles may be molded as soon as they are removed from the oven.

There are a myriad of shaping options for cookies and some of the recipes in this chapter can be adapted for different methods. Following are the six basic categories of cookies.

DROP COOKIES

DROP COOKIES ARE MADE from doughs and batters firm enough to hold a shape on a sheet pan.

1. Prepare the dough as instructed using either the creaming method or foaming method. Dough prepared using the creaming method achieves leavening in part through the air that is incorporated as the fat and sugar are creamed together. The foaming method incorporates air that expands and leavens during baking through the beating of eggs, yolks, or whites to create air pocket–rich foam that is gently blended into a batter.

2. To portion drop cookies, fill a scoop of the appropriate size with the dough and level it off, then release it onto the parchment-lined sheet pan. Some recipes may call for the portioned drop of dough to be flattened for a more even final spread. When slicing drop cookie dough to portion the cookies, scale the dough into manageable portions and shape each one into a log. Wrap the dough in parchment paper or plastic wrap, using it to compress the dough into a compact cylinder, and refrigerate or freeze until firm. Slice the dough into uniform slices.

3. Bake as directed. Most drop cookies are golden brown around the edges and on the bottom when properly baked. For many of these cookies, the upper surface should still look moist but not wet.

4. Cool completely before storing in airtight containers at room temperature or freezing.

LEFT: *Portion drop cookies onto a sheet tray, leaving enough room to account for the spread during baking.*

RIGHT: *Cookie dough is easily portioned by slicing after it is fully chilled.*

BAR COOKIES

BAR COOKIES ARE BAKED in large sheets and portioned after baking.

1. Prepare the dough or batter as directed.

2. Spread the dough or batter evenly in the pan to ensure uniform baking. Some bar cookies, such as lemon bars, are made of layers of different components. Each component should be spread carefully and evenly; in some cases, it may be necessary to chill one layer before adding another layer.

3. Bake as directed.

4. If the bars are to be glazed or iced, allow the sheet to cool completely before adding the glaze or icing. To ensure clean, straight cuts, especially when working with a glazed or iced cookie, chill the full sheet before cutting it, and dip the knife in warm water and wipe it clean before each cut.

5. Store in an airtight container. Bar cookies generally have a shorter shelf life than other cookies because the exposed sliced edges stale relatively quickly.

Accuracy of measurement is required to cut uniform cookies. Pecan Diamonds (page 344) are shown here.

TRADITIONAL ROLLED AND CUT-OUT COOKIES

DOUGH IS PREPARED, chilled, and rolled, then cut into desired shape before baking.

1. Prepare the dough as directed. Refrigerate the dough after mixing to allow it to firm up.

2. Prepare the sheet pans before beginning to roll out the dough. Pans are prepared ahead of time so that cookies may be transferred directly to the pan after cutting.

3. Divide the dough into manageable portions. Work with one portion at a time and keep the remainder tightly wrapped and refrigerated.

4. Lightly dust the work surface with flour. All-purpose or bread flour is most often used. Bread flour is used for dusting both because it is lower in starch and because its slightly more granular texture dusts a surface more evenly without clumping. For certain types of cookies you may use confectioners' sugar for dusting. Some doughs are particularly soft and delicate and should instead be rolled between two sheets of parchment paper.

5. Roll out the dough the desired thickness. The precise thickness depends on the formula. When rolling, occasionally rotate the dough 90 degrees to ensure that the dough is rolled to an even thickness.

6. Cut the cookies with knife or cookie cutter and quickly transfer to the prepared pans so they don't become misshapen when transferred. Rolled and cut cookies generally do not spread much, so they can be placed relatively close together on the sheet pans.

7. Bake as directed. When using cutters of varying sizes and shapes, bake cookies of like sizes together to ensure even baking.

8. Cool and store. Cutout cookies are often garnished with any number of glazes, frostings, nuts, fruits, and other décor.

LEFT: *Begin rolling the dough, rolling perpendicular to the edge of the table, turning the dough 90 degrees occasionally as you roll.*

RIGHT: *Cut the dough with a floured cookie cutter. Press firmly to achieve a clean cut.*

Use a rolling pin to beat the dough until it is soft enough to roll.

STENCILED COOKIES

THIN BATTERS ARE PREPARED and then spread within a stencil onto a silicone baking mat to create a very thin, delicate cookie generally called a *tuile*.

1. Prepare the batter as directed. Stenciled cookies are made using batters that can be spread very thin and baked without losing their detailed shape.

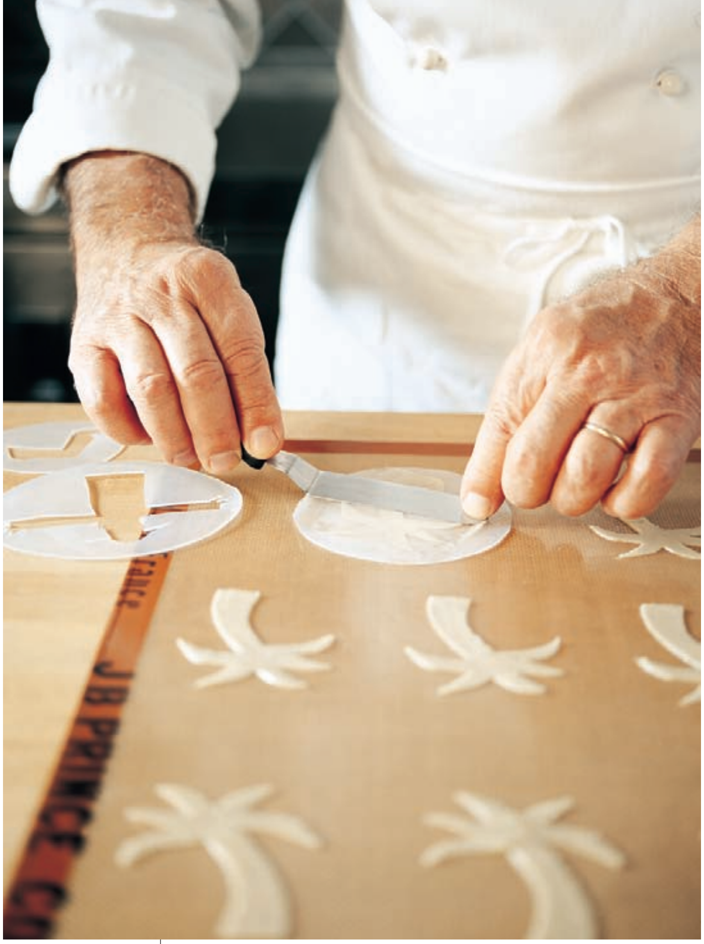
2. Line the pans with silicone baking mats. If baking mats are unavailable, grease and flour inverted sheet pans and freeze them before using; freezing will solidify the fat and flour coating so it will not come off during the stenciling process.

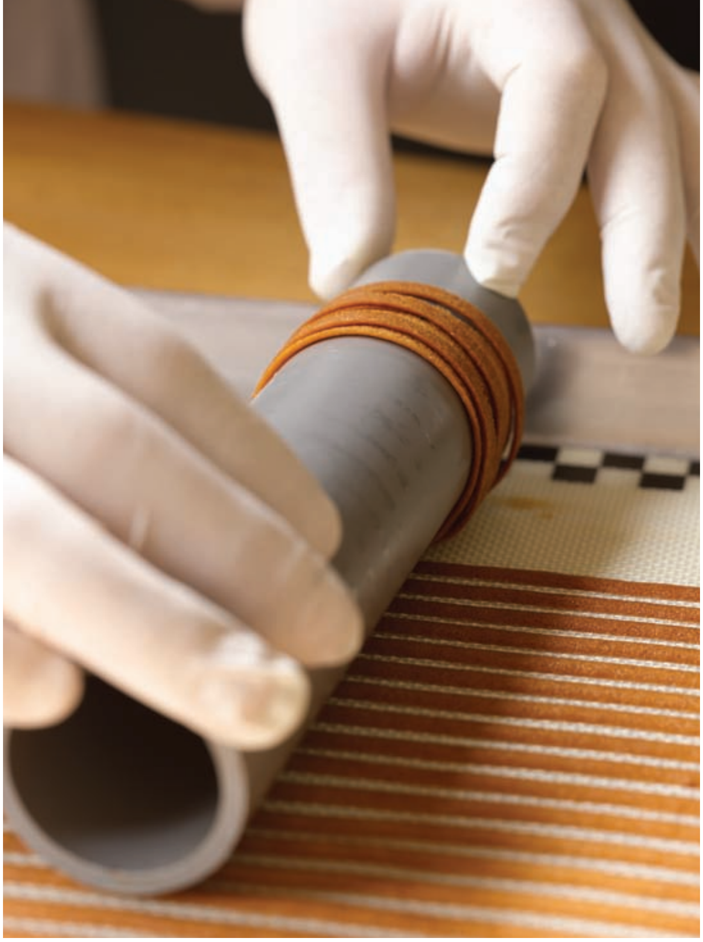
3. Place the stencil on the prepared pan and use a small offset spatula to spread a thin, even layer of batter over it. It is important to spread the batter evenly so the cookies bake uniformly. Carefully lift the stencil and repeat.

4. Bake as directed. Stenciled cookies bake quickly and should be watched almost constantly.

5. Shape the cookies as required. To shape stenciled cookies, drape them over a rolling pin to create the classic tuile shape (a curved shape resembling a terra-cotta roof tile), twist around a dowel to create a spiral, or drape over a cup or ramekin to make a container, to name only a few variations. The cookies must be warm and pliable enough to mold without cracking; if necessary, return the pan of baked cookies to the oven to rewarm them briefly. For this reason, stenciled cookies should be made in small batches; if the pan must be returned to the oven too many times, the last cookies on the pan may burn.

6. Store molded stenciled cookies in airtight containers so they don't lose their shape due to exposure to humidity. Protect delicate stenciled cookies from breakage.



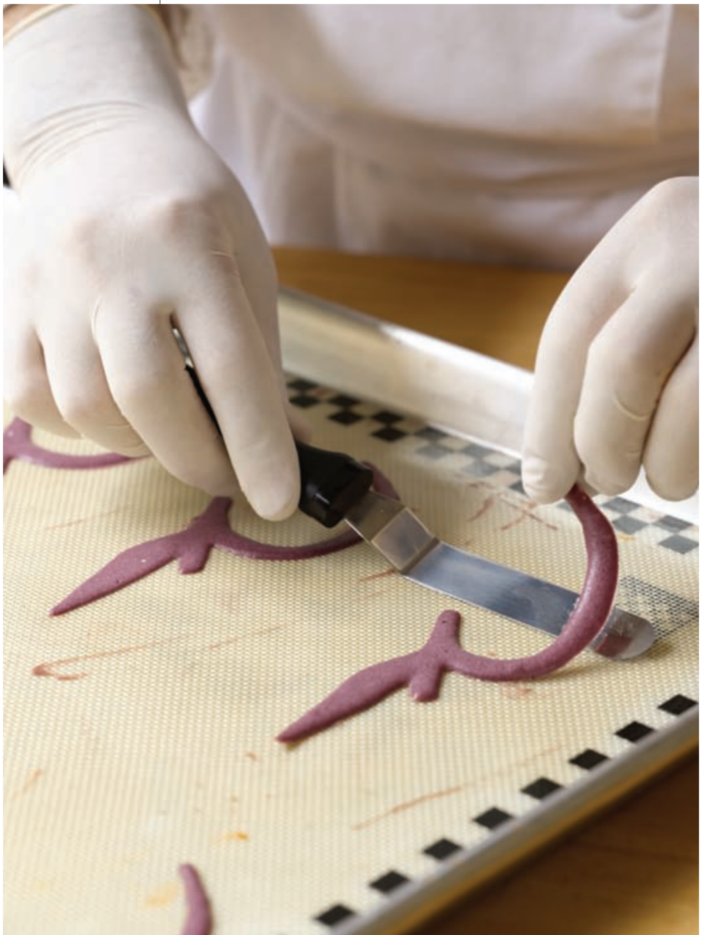


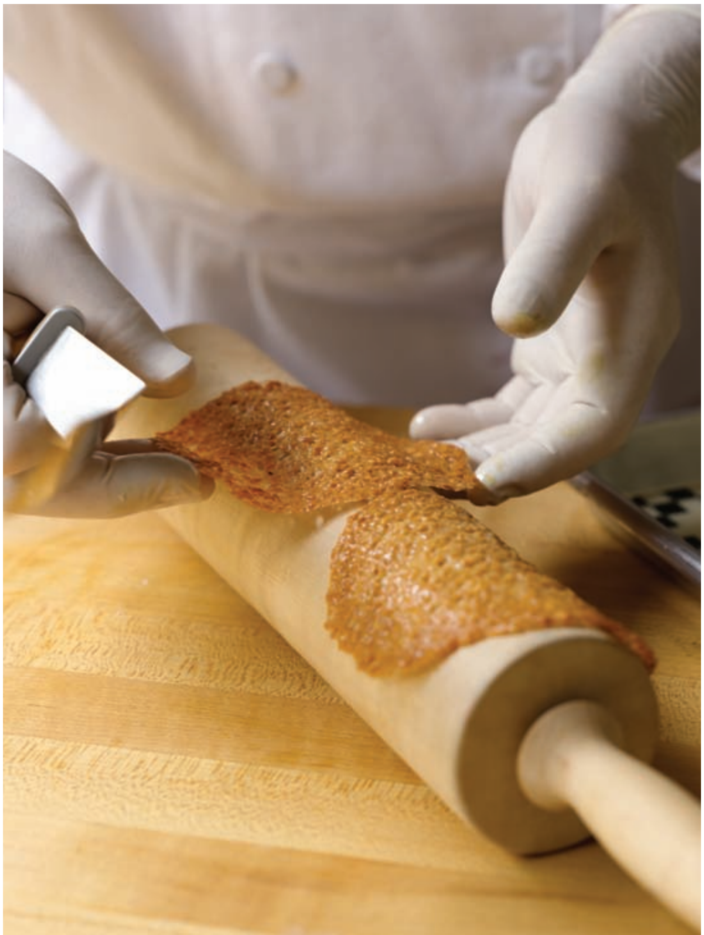
TOP LEFT: *Press batter through the stencil with a spatula. Use a variety of different stencils to create cookie garnishes.*

TOP RIGHT: *Tuile batter is formed into lines using a comb prior to baking, then rolled across a cylinder to create a unique shape.*

BOTTOM LEFT: *Tuile cookies are molded while they are still hot from the oven, and can be rewarmed for easier shaping.*

BOTTOM RIGHT: *Tuiles are given a subtle curve by laying over a rolling pin while they are still warm.*





MOLDED COOKIES

MOLDED COOKIES MAY BE formed by hand, stamped or pressed, or piped into carved or cast molds to create an intricate design.

1. Prepare the cookie dough as directed. If the dough is too soft to hold its shape, refrigerate it after mixing until it is firm enough to work with.

2. Roll out the dough on a lightly floured surface. Flouring prevents the dough from sticking or adhering to a surface.

3. Press the dough with the molds, or shape using the necessary method to mold into shape.

4. Bake as directed. Most molded cookies are baked immediately after they are formed. However, springerle must air-dry for several hours to ensure that they retain their intricate patterns; drying allows a crust to form on the top surface of the cookies, which will preserve the impression during baking by preventing the surface from rising or cracking. Because these cookies are leavened, they will expand from the bottom.

5. Cool and store.

TWICE-BAKED COOKIES

DOUGH IS PREPARED IN a log or loaf and baked one time. It is allowed to cool briefly, then sliced and rebaked to create a crisp cookie.

1. Prepare the dough as directed.

2. Pipe the dough or form it into logs or loaves.

3. Bake until the internal structure is set but the color is not fully developed.

4. The logs are generally allowed to cool briefly but not completely, so that they won't be too brittle when sliced. Slice the cookies using a serrated blade. A serrated blade is less likely to chip and fray the edges of the cookies as they are sliced.

5. Arrange the sliced cookies on sheet pans.

6. Bake the cookies again, at a lower temperature. This will dry them fully and develop more flavor and color; any seeds and nuts will toast at this point and the sugars in the dough will caramelize.

7. Cool and store. Twice-baked cookies have a long shelf life due to the lack of moisture that results from being dried in the oven during the second baking.

Slicing biscotti before it is baked a second time

PIPED COOKIES

A BATTER IS PLACED in a piping bag, piped into shapes on a sheet pan, and baked.

1. Prepare the pans, pastry bag, and pastry tip. For piped cookie batters or doughs made with meringue or beaten egg whites, this step is especially important. Preparing materials ahead of time prevents delicate batters from losing volume from being left to stand too long.

2. Prepare the batter or dough as directed.

3. Fill the pastry bag. To fill a pastry bag with batter, first place the pastry tip in the bag (if using one). Fold the top of the bag down to make a cuff, and use a rubber spatula to fill the bag. Twist the top of the bag to seal, and squeeze to release any air in the tip of the bag.

4. Pipe the cookies onto prepared pans. Use constant, even pressure, piping into smooth even shapes, avoiding "tails" which are likely to become dark or burn during baking.

TOP TO BOTTOM: *Chocolate Chunk Cookies (page 338), German chocolate brownies, Rugelach (page 348), Florentine Squares (page 347), Mudslide Cookies (page 339), and walnut Shortbread (page 357)*

CHOCOLATE CHUNK COOKIES

MAKES 4 DOZEN COOKIES

INGREDIENT	U.S.	METRIC
Pastry flour	1 lb 5 oz	600 g
Salt	1¼ tsp	7 g
Baking soda	1¼ tsp	7 g
Butter, soft	14 oz	400 g
Granulated sugar	10 oz	280 g
Light brown sugar	6½ oz	180 g
Eggs	6 oz	170 g
Vanilla extract	1 tsp	5 mL
Chocolate chunks	1 lb 5 oz	600 g

1. Line sheet pans with parchment paper.

2. Sift together the flour, salt, and baking soda.

3. Cream the butter and sugars with the paddle attachment on medium speed, scraping down the bowl periodically, until the mixture is smooth and light in color, about 5 minutes.

4. Combine the eggs and vanilla. Add to the butter-sugar mixture in three additions, mixing until fully incorporated after each addition and scraping down the bowl as needed.

5. On low speed, mix in the sifted dry ingredients and the chocolate chunks until just incorporated.

6. Divide the dough into 1½-oz/40-g pieces and place on the prepared pans. Alternatively, the dough may be divided into 2-lb/910-g pieces, shaped into logs 16 in/41 cm long, wrapped tightly in parchment paper, and refrigerated until firm enough to slice. Slice each log into 16 pieces and arrange on the prepared sheet pans in even rows.

7. Bake at 375°F/191°C until golden brown around the edges, 12 to 14 minutes. Cool completely on the pans. Store in an airtight container.

VARIATIONS

CHOCOLATE CHERRY CHUNK COOKIES
Add 2 lb/910 g chopped dried cherries along with the chocolate in step 5.

CHOCOLATE CHUNK NUT COOKIES *Add 6 oz/170 g chopped walnuts or pecans.*

MUDSLIDE COOKIES

MAKES 3 DOZEN COOKIES

INGREDIENT	U.S.	METRIC
Cake flour	2½ oz	70 g
Baking powder	1½ tsp	6 g
Salt	Pinch	Pinch
Unsweetened chocolate	5½ oz	160 g
Bittersweet chocolate	1 lb	450 g
Butter	3 oz	90 g
Eggs	12 oz	340 g
Sugar	1 lb	450 g
Vanilla extract	1 tsp	5 mL
Walnuts, chopped	5½ oz	160 g
Chocolate chips	1 lb 2 oz	510 g

1. Line sheet pans with parchment paper.

2. Sift together the flour, baking powder, and salt.

3. Melt the unsweetened and bittersweet chocolate together with the butter in a bowl over a pot of barely simmering water. Stir to blend.

4. Beat the eggs, sugar, and vanilla with the whip attachment on high speed until light and thick, 6 to 8 minutes. Blend in the chocolate mixture on medium speed. On low speed, mix in the dry ingredients until just blended. Blend in the walnuts and chocolate chips until just incorporated.

5. Divide the dough into 2-oz/60-g pieces and arrange on the prepared sheet pans in even rows. Alternatively, the dough may be divided into 2-lb/910-g pieces, shaped into logs 16 in/41 cm long, wrapped tightly in parchment paper, and refrigerated until firm enough to slice. Slice each log into 16 pieces and arrange on the prepared sheet pans in even rows.

6. Bake at 375°F/191°C until the cookies are cracked on top but still appear slightly moist, about 12 minutes. Cool slightly on the pans. Transfer to racks and cool completely. Store in an airtight container.

CHEF'S NOTES

The middle will still be very soft when this cookie is finished baking. Only the sides will be firm to the touch.

These are also good with the addition of dried cherries or cranberries.

OATMEAL RAISIN COOKIES

MAKES APPROXIMATELY 2 DOZEN COOKIES (2 OZ/57 G EACH)

INGREDIENT	U.S.	METRIC
All-purpose flour	9 oz	260 g
Baking soda	½ tsp	2.5 g
Ground cinnamon	1 tsp	2 g
Salt	½ tsp	3 g
Butter, soft	12 oz	340 g
Light brown sugar	14 oz	400 g
Granulated sugar	5 oz	140 g
Eggs	10 oz	280 g
Vanilla extract	2 tsp	10 mL
Rolled oats	14 oz	400 g
Raisins, plumped (see "Dried Fruits," page 261)	6 oz	170 g

1. Line sheet pans with parchment paper.

2. Sift together the flour, baking soda, cinnamon, and salt.

3. Cream the butter and sugars with the paddle attachment on medium speed, scraping down the bowl periodically, until the mixture is light and smooth, about 10 minutes. Blend the eggs and vanilla and add to the butter-sugar mixture in three additions, mixing until fully incorporated after each addition and scraping down the bowl as needed.

4. On low speed, mix in the sifted dry ingredients and the oats and raisins until just incorporated.

5. Divide the dough into 2-oz/60-g pieces and place on the prepared sheet pans in even rows. Alternatively, the dough may be divided into 2-lb/910-g pieces, shaped into logs 16 in/41 cm long, wrapped tightly in parchment paper, and refrigerated until firm enough to slice. Slice each log into 16 pieces and arrange on the prepared sheet pans in even rows.

6. Bake at 375°F/191°C until light golden brown, about 12 minutes. Cool slightly on the pans. Transfer to racks and cool completely. Store in an airtight container.

CHEF'S NOTE

The middle will still be very soft when this cookie is finished baking. Only the sides will be firm to the touch.

VARIATION

OATMEAL FRUIT COOKIES *Omit the raisins. Add 8 oz/230 g chopped dried pears, 8 oz/230 g chopped dried apricots, 8 oz/230 g dried blueberries, 8 oz/230 g chopped dried strawberries, 1 lb/450 g dried cranberries, and 8 oz/230 g toasted sliced almonds along with the oats in step 4.*

BRANDY SNAPS

MAKES 12 DOZEN COOKIES

INGREDIENT	U.S.	METRIC
Butter, melted	11 oz	310 g
Light brown sugar	7¾ oz	220 g
Dark corn syrup	14 oz	400 g
Brandy	¾ oz	20 g
Bread flour, sifted	7 oz	200 g
Ground ginger	½ tsp	1 g

1. Line sheet pans with silicone baking mats.

2. Combine the butter, sugar, corn syrup, and brandy. Add the flour and ginger and mix until smooth.

3. Portion the batter with a #100 scoop onto the lined sheet pans, spacing the cookies 4 in/10 cm apart.

4. Bake at 350°F/177°C until light golden brown, about 5 minutes. Remove from the oven and cool slightly. Form into desired shapes while warm.

VARIATION

SESAME BRANDY SNAPS *Add 1¼ oz/35 g sesame seeds to the finished batter.*

PEANUT BUTTER COOKIES

MAKES 3 DOZEN COOKIES

INGREDIENT	U.S.	METRIC
Peanuts, shelled, blanched	10 oz	280 g
All-purpose flour	1 lb 2 oz	510 g
Baking soda	½ oz	14 g
Light brown sugar	1 lb	450 g
Granulated sugar	1 lb	450 g
Butter, soft	1 lb	450 g
Salt	1½ tsp	9 g
Eggs	8 oz	230 g
Creamy peanut butter	1 lb 8 oz	680 g

1. Line sheet pans with parchment paper.
2. Toast the peanuts in a 350°F/177°C oven until golden brown and aromatic, 8 to 12 minutes. Allow the peanuts to cool completely.
3. Sift together the flour and baking soda.
4. Cream together the sugars, butter, and salt with the paddle attachment, starting on low speed and increasing to medium speed, until light and fluffy. Scrape down the bowl as needed.
5. Add the eggs in two or three additions, mixing until fully incorporated after each addition. Scrape down the bowl as needed to blend evenly.
6. Add the peanut butter and blend together.
7. Add the sifted dry ingredients and the cooled peanuts. Mix on low speed just long enough to combine the ingredients.
8. Use a #16 scoop (2 fl oz/60 mL) to divide the dough into 2-oz/60-g portions. Arrange the dough on the prepared pans in even rows.
9. Bake at 350°F/177°C until golden brown, 8 to 10 minutes. Cool completely before removing from the pan. Store in an airtight container.

HERMIT COOKIES

MAKES 3 DOZEN COOKIES

INGREDIENT	U.S.	METRIC
Cake flour	1 lb 4 oz	570 g
Baking soda	¼ oz	7 g
Sugar	12 oz	340 g
Butter, soft	6 oz	170 g
Molasses, unsulfured	3 oz	90 g
Ground allspice	¼ tsp	1 g
Ground cinnamon	¼ tsp	1 g
Salt	Pinch	Pinch
Eggs	3 oz	90 g
Water	2½ oz	70 g
Currants, plumped (see page 261)	8 oz	230 g
Thread Glaze (see page 493)	As needed	As needed

1. Line sheet pans with parchment paper.

2. Sift together the flour and baking soda.

3. Cream together the sugar and butter with the paddle attachment on low speed, increasing to medium speed until light and fluffy, about 5 minutes. Blend in the molasses, allspice, cinnamon, and salt, scraping down the bowl periodically, until the mixture is smooth and light in color, about an additional 5 minutes.

4. Whisk together the eggs and water. Add to the butter-sugar mixture in three additions, alternating with the sifted dry ingredients, mixing until fully incorporated after each addition and scraping down the bowl as needed. Mix in the currants until just incorporated.

5. Fill a pastry bag with fitted with a #6 piping tip with the batter and pipe 1½-in/4-cm rounds onto the prepared sheet pans.

6. Bake at 375°F/191°C until the rounds are light golden brown, 8 to 10 minutes. Transfer to racks and cool completely.

7. Place the cookies on a wire rack over a sheet pan. Glaze a small circle in the center of each cookie with thread glaze and allow to set completely. Store in an airtight container.

PECAN DIAMONDS

MAKES 1 HALF SHEET PAN, 100 PIECES (1 IN/3 CM)

INGREDIENT	U.S.	METRIC
Rich Short Dough (page 234)	2 lb	910 g
PECAN FILLING		
Butter, cubed	1 lb	450 g
Light brown sugar	1 lb	450 g
Granulated sugar	4 oz	110 g
Honey	12 oz	340 g
Heavy cream	4 oz	110 g
Pecans, chopped	2 lb	910 g

1. Roll out the short dough on a lightly floured work surface to a rectangle 13 by 18 in/33 by 46 cm and ⅛ in/0.3 cm thick. Lay it gently in a sheet pan so that it completely lines the bottom and sides. Dock the dough with a pastry docker or the tines of a fork.

2. Bake at 350°F/177°C until light golden brown, about 10 minutes.

3. To make the filling, combine the butter, sugars, honey, and cream in a heavy-bottomed saucepan and cook over medium-high heat, without stirring, until the mixture reaches 240°F/116°C. Add the nuts and stir until fully incorporated. Immediately pour into the prebaked crust and spread into an even layer.

4. Place the half sheet pan on a full sheet pan to catch any filling if it boils over. Bake at 350°F/177°C until the filling bubbles or foams evenly across the surface and the crust is golden brown, about 45 minutes. Cool completely in the pan.

5. Using a metal spatula, release the sheet from the sides of the pan and invert the slab onto the back of a sheet pan. Transfer to a cutting board, flipping it over so it is right side up. Trim off the edges. Cut into diamonds with 1-in/3-cm sides. Store in an airtight container.

CAKE BROWNIES

MAKES 1 HALF SHEET PAN

INGREDIENT	U.S.	METRIC
Semisweet chocolate, chopped	1 lb 6 oz	620 g
Butter	1 lb 6 oz	620 g
Eggs, room temperature	1 lb 10 oz	740 g
Sugar	2 lb 10 oz	1.19 kg
Vanilla extract	1 tbsp	15 mL
Cake flour	1 lb	450 g
Cocoa powder	5½ oz	160 g
Walnuts, coarsely chopped	1 lb	450 g

1. Line a half sheet pan with parchment.

2. Melt the chocolate and butter in a bowl over barely simmering water, blending gently. Remove the bowl from the heat.

3. Combine the eggs, sugar, and vanilla and whip with the whip attachment on high speed until light and thick in color, about 8 minutes.

4. Blend one-third of the egg mixture into the melted chocolate to temper it, then return it to the remaining egg mixture and blend on medium speed, scraping down the bowl as needed. On low speed, mix in the flour, cocoa powder, and nuts until just blended. The batter will be very wet. Pour the batter into the prepared sheet pan and spread evenly.

5. Bake at 350°F/177°C until a crust forms but the center is still moist, 30 to 40 minutes. Cool completely in the pan.

6. Cut into bars 2 by 3 in/5 by 8 cm. Store in an airtight container.

CHEF'S NOTE

The brownies may be glazed with 2 lb/910 g Hard Ganache (page 484) (22 oz/620 g chocolate, 11 oz/310 g cream). To glaze the brownies, trim the edges while they are in the pan. Invert the pan of uncut brownies onto the back of another sheet pan, then flip them once more onto a wire rack over a sheet pan so they are right side up. Pour the warm ganache over the brownies and spread it evenly. Refrigerate the brownies until the ganache is firm, about 30 minutes. Slice the brownies into the dimensions given above, using a warm sharp knife.

GERMAN CHOCOLATE BROWNIES

MAKES ONE HALF SHEET PAN

INGREDIENT	U.S.	METRIC
Butter	1½ lb	680 g
Eggs	10	10
Salt	1 tsp	6 g
Sugar	3½ lb	1.58 kg
Vanilla extract	2 tsp	10 mL
All-purpose flour	1 lb 2 oz	510 g
TOPPING		
Evaporated milk	1½ lb	680 g
Light brown sugar	1¼ lb	566 g
Salt	½ tsp	3 g
Butter	8 oz	226 g
Vanilla extract	2 tsp	10 mL
Egg yolks	6	6
Sweetened flaked coconut	5 oz	140 g
Chopped pecans, toasted	8½ oz	240 g

1. Line a half sheet pan with parchment paper.

2. Pour the warm melted butter over the chopped chocolate. Let set for a minutes and then stir gently to combine and make sure the chocolate is completely melted.

3. In the bowl of an electric mixer blend together the eggs, salt, and sugar and place over a pan of barely simmering water. Whisk gently and warm for 3 to 4 minutes.

4. Place the bowl on the mixer fitted with the wire whip attachment and whip on medium speed for 5 minutes. Reduce the speed to low and add the chocolate-butter mixture and vanilla on. Blend until well combined, 1-2 minutes. Scrap down the bowl as needed.

5. Add the flour and mix just until incorporated, about 1 minute. Pour the batter into the prepared pan and bake in a 350°F preheated oven for 30 to 35 minutes or until a tester inserted in the center comes out clean. Place the pan on a wire rack and allow the brownies to cool completely in the pan.

6. To make the topping, combine the evaporated milk, sugar, and salt, and butter in a medium sauce pan and bring to a simmer over medium heat. Simmer while gently stirring until the mixture darkens slightly and thickens to a honey-like consistency, about 15 minutes.

7. Remove the pan from the heat and stir in the vanilla, egg yolks, coconut, and pecans. Allow the topping to cool to a spreadable consistency.

8. Spread the topping over the cooled brownies. Refrigerate until set, about 1 hour, before cutting.

FLORENTINE SQUARES

MAKES 1 HALF SHEET PAN, 165 PIECES (1 IN/3 CM)

INGREDIENT	U.S.	METRIC
1–2–3 Cookie Dough (page 233)	2 lb	910 g
FILLING		
Sugar	13 oz	370 g
Heavy cream	11 oz	310 g
Honey	5½ oz	160 g
Butter	5½ oz	160 g
Almonds, sliced, raw	11 oz	310 g
Dried cranberries	2 oz	60 g
Pistachios, coarsely chopped	2 oz	60 g
Orange zest, grated (optional)	¼ oz	7 g
All-purpose flour	½ oz	14 g

1. Line a half sheet pan with parchment paper.

2. Roll out the dough on a lightly floured work surface to a rectangle 13 by 18 in/33 by 46 cm and ⅛ in/0.3 cm thick. Lay it gently in the half sheet pan so that it completely lines the bottom and sides. Dock the dough with a pastry docker or the tines of a fork.

3. Bake at 375°F/191°C until the dough is light golden brown, about 10 minutes.

4. To make the filling, cook the sugar, cream, honey, and butter in a heavy-bottomed saucepan over medium heat, stirring constantly, until the mixture reaches 240°F/116°C.

5. Remove from the heat and fold in the almonds, dried cranberries, pistachios, orange zest (if using), and flour.

6. Pour onto the prebaked crust and spread into an even layer.

7. Bake at 375°F/191°C until golden brown, 15 to 20 minutes. Cool. (The cookies may be slightly warm when they are cut.)

8. Using a metal spatula, release the sheet from the sides of the pan. Transfer to a cutting board. Trim off the edges. Cut into 1¼-in/3-cm squares. Store in an airtight container.

RUGELACH

MAKES 48 PIECES; 3 LB 13½ OZ/1.74 KG DOUGH

INGREDIENT	U.S.	METRIC
DOUGH		
Bread flour	13½ oz	380 g
Pastry flour	2½ oz	70 g
Salt	Pinch	Pinch
Butter, soft	1 lb	450 g
Cream cheese	13½ oz	380 g
FILLING		
Jam	7½ oz	210 g
Nuts, chopped	9 oz	260 g
Cinnamon Sugar (page 1070)	1½ oz plus extra for sprinkling	40 g plus extra for sprinkling
Egg Wash (page 1064)	As needed	As needed

1. Line sheet pans with parchment paper.

2. Sift together the bread flour, pastry flour, and salt.

3. Mix the butter and cream cheese with the paddle attachment on medium speed until smooth, 5 minutes. On low speed, mix in the sifted dry ingredients until just combined. Scrape down the bowl as necessary to blend evenly.

4. Turn the dough out onto a lightly floured work surface. Roll the dough to an even thickness of ½ in/1 cm in a rectangle approximately 16 by 26 in/41 by 66 cm and give it one three-fold (see page 228). Scale the dough into 1-lb/450-g portions and shape into disks.

5. Wrap the dough in plastic wrap and let it rest under refrigeration until firm enough to roll out.

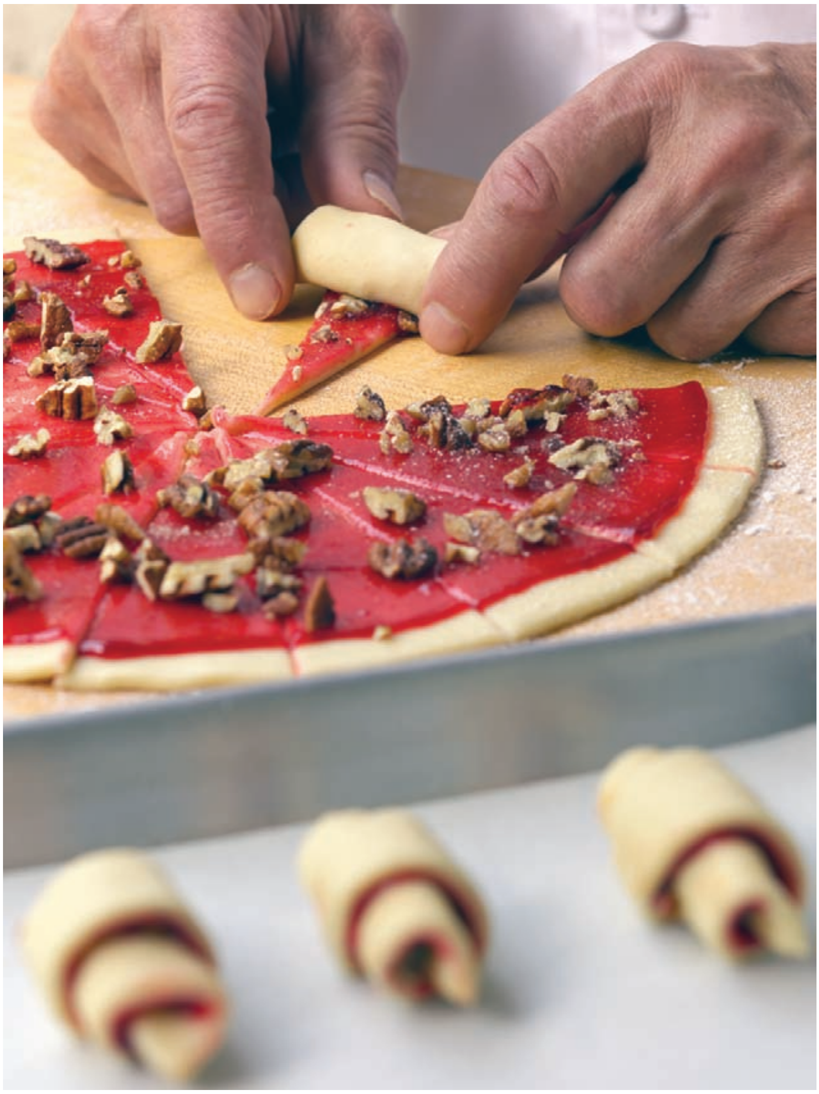
6. Roll out each disk on a lightly floured work surface to a circle ¹⁄₁₆ in/0.15 cm thick and 14 in/36 cm in diameter. Spread the dough with 2½ oz/70 g jam and sprinkle with 3 oz/90 g chopped nuts and ½ oz/14 g cinnamon sugar. Cut into 16 wedges. Roll each one into a crescent, beginning at the wide end. Transfer to prepared sheet pans, leaving about 1 in/3 cm between cookies. Lightly brush the cookies with egg wash and sprinkle each with cinnamon sugar.

7. Bake at 375°F/191°C until light golden brown, about 10 minutes. Transfer to racks and cool completely. Store in an airtight container.

VARIATION

Working with 8-oz/230-g pieces of dough, roll each piece into a rectangle approximately 8 in/20 cm wide and 1⁄16 in/0.15 cm thick. Spread 5 oz/140 g raspberry jam over the rolled dough and sprinkle with 3½ oz/100 g roughly chopped pecans or walnuts and ½ oz/14 g cinnamon sugar. Roll up the dough from the longer side of the rectangle to form a long log. Lightly brush the top of the log with egg wash and sprinkle with ½ oz/14 g cinnamon sugar. Cut the log into 1-in/3-cm sections, place on parchment-lined sheet pans, and bake as directed above.

CHOCOLATE RUGELACH *Substitute 9 oz/260 g of chocolate chips for the nuts.*



Rolling the individual rugelach

SUGAR COOKIES

MAKES 10 DOZEN COOKIES

INGREDIENT	U.S.	METRIC
All-purpose flour	2 lb	910 g
Salt	1 tsp	6 g
Butter, soft	1 lb	450 g
Sugar	15 oz	430 g
Eggs	4 oz	110 g
Milk, 70°F/21°C	3 oz	90 g
Vanilla extract	1 tbsp	15 mL

1. Line sheet pans with parchment paper.

2. Sift together the flour and salt.

3. Cream the butter and sugar with the paddle attachment, starting on low speed and increasing to medium speed, until light and fluffy, about 5 minutes.

4. Combine the eggs, milk, and vanilla. Alternately add the sifted dry ingredients and egg mixture to the butter-sugar mixture in two to three additions, blending until fully incorporated after each addition.

5. Divide the dough into 4 equal pieces, wrap each tightly in plastic wrap, and refrigerate until firm enough to roll.

6. Working with one piece of dough at a time, roll out the dough on a lightly floured work surface to ⅛ in/0.3 cm thick. Using a 2½-in/6-cm round cutter, cut out the cookies. Place the cookies in even rows on the prepared sheet pans. Collect the scraps of dough, layering them to keep them flat to prevent over working the dough, press them together, wrap, and refrigerate until firm enough to reroll.

7. Bake at 375°F/191°C until golden around the edges, about 12 minutes. Transfer to racks and cool completely. Store in an airtight container.

LINZER COOKIES

MAKES 65 COOKIES

INGREDIENT	U.S.	METRIC
Linzer Dough (page 239)	1 lb 8 oz	680 g
Confectioners' sugar, sifted	As needed	As needed
Raspberry jam	As needed	As needed

1. Line sheet pans with parchment paper.

2. Divide the dough into four equal pieces, wrap each tightly in plastic wrap, and refrigerate for several hours, until firm enough to roll out.

3. Working with one piece of the dough at a time, roll out the dough on a lightly floured work surface to ⅛ in/0.3 cm thick. Using a 1½-in/4-cm fluted cutter, cut out rounds of dough. Using a 1-in/3-cm plain round cutter, cut out a hole from the center of half of the pieces to make rings. Transfer to the prepared sheet pans, placing the rings and circles on separate pans and arranging them in evenly spaced rows. Collect the scraps of dough, press together, wrap, and refrigerate until firm enough to reroll.

4. Bake at 350°F/177°C until light golden brown, 8 to 10 minutes. Transfer to racks and cool completely.

5. Sift confectioners' sugar over the rings. Fill a pastry bag fitted with a #4 straight tip with the jam and pipe a small mound of jam onto the center of each circle cookie. Carefully center the sugar-dusted rings onto the jam-filled bottoms and press gently to secure. Store in an airtight container.

CHEF'S NOTE

For the garnish for the Cashew Butter and Grape Jelly Danish (page 754), cut out the linzer dough using a 3½-in/9-cm diameter fluted ring cutter and a 2-in/5-cm diameter fluted ring cutter to create the hole in the center. The dough must be kept frozen until it is baked. Bake at 320°F/160°C on a parchment-lined sheet pan until golden brown, about 8 minutes. Once cooled, sprinkle with powdered sugar on top using a sifter.

CHESTNUT BISCUIT

MAKES 1 QUARTER SHEET PAN, 14OZ/400 G

INGREDIENT	U.S.	METRIC
Chestnut cream	8¾ oz	250 g
Vanilla bean paste	1 tsp	2 g
Egg yolks	2	2
Hazelnut flour	1 tbsp	8 g
Chestnut flour	1 tbsp	8 g
Butter, melted	1¾ oz	50 g
Sugar	½ oz	14 g

1. Add the chestnut cream, vanilla bean paste, and egg yolks to the bowl of an electric mixer fitted with the paddle attachment, and blend on medium speed until just combined.

2. Add the hazelnut and chestnut flours, and mix on medium speed until just combined.

3. Blend in the butter.

4. Make a medium peak meringue with the sugar and egg whites. Add one-third of the meringue to the chestnut mixture and gently blend to incorporate and lighten. Gently fold in the remaining meringue.

5. Spread into a quarter sheet pan lined with parchment.

6. Bake in a 325°F/163°C convection oven until golden brown, 6 to 8 minutes. Allow to cool to room temperature.

CITRUS WHITE CHOCOLATE SABLÉS

MAKES 3 LB/1.36 KGDOUGH (SIX 6-IN/15-CM CIRCLES)

INGREDIENT	U.S.	METRIC
Butter	1 lb	450 g
Confectioners' sugar	5 oz	140 g
All-purpose flour	1 lb 2 oz	510 g
Cornstarch	3 oz	90 g
Salt	Pinch	Pinch
Vanilla bean, seeds only	2	2
Lime zest, grated	1 tbsp	9 g
White chocolate, cut into small chunks	8 oz	230 g

1. Line baking sheets with parchment paper.

2. Cream the butter and sugar with the paddle attachment on medium speed until light and smooth, about 5 minutes.

3. Add the flour, cornstarch, and salt and blend on medium speed until just incorporated. Add the vanilla bean seeds, lime zest, and white chocolate chunks and blend just to incorporate. Wrap the dough and refrigerate until firm enough to roll.

4. Divide the dough into 4-oz/110-g pieces. Roll out each piece on a lightly floured work surface to a 6-in/15-cm circle and place on the baking sheets.

5. Bake in a 325°F/163°C convection oven for 5 minutes.

6. Trim the edges with a 6-in/15-cm ring cutter. Return to the oven to bake until golden at the edges, about 5 minutes more.

7. Transfer to racks and cool completely. Store in an airtight container.

SABLÉ BUTTER

MAKES 2LB 12 OZ/1.25 KG

INGREDIENT	U.S.	METRIC
Cocoa butter	7 oz	200 g
Sugar	7 oz	200 g
Sablé Dough Crumbs (page 355)	3½ oz	100 g
Canola oil	1 lb 10½ oz	750 g

1. Melt the cocoa butter and pour into a blender. Begin on low speed and blend together the cocoa butter, sugar, and sablé crumbs.

2. Once the mixture has become a homogeneous purée stream in the oil and blend for 1 minute.

3. Place the mixture in a mixing bowl and refrigerate until completely set, about 3 hours.

4. Once the mixture has set, mix with the paddle attachment on low speed and scrape the bowl thoroughly. The sablé mixture will have settled at the bottom of the bowl. Switch the paddle for a whip attachment and whip on high speed until the mixture reaches stiff peak. Reserve in a container overnight.

5. There will be chunks of sablé visible in the butter, which is completely normal and adds texture to the final product. When ready to use, stir vigorously to reconstitute.

SABLÉ DOUGH CRUMBS

MAKES 9 LB 4¾ OZ/4.22 KG

INGREDIENT	U.S.	METRIC
Butter	2 lb 1¾ oz	960 g
Salt	½ oz	14 g
Confectioners' sugar	1 lb 9¼ oz	720 g
Almond flour	5 oz	140 g
Eggs	14 oz	400 g
Bread flour	10¼ oz	290 g
Pastry flour	10¼ oz	290 g
Cake flour	3 lb 1¼ oz	1.4 kg

1. Sift together the bread, pastry, and cake flours.

2. Combine the butter, salt, confectioners' sugar, and almond flour together in the bowl of an electric mixer fitted with a paddle attachment. Cream the ingredients together on medium speed until combined and smooth.

3. Add eggs to the creamed mixture in three stages on medium speed. Scraping down the side of the bowl as necessary after each addition.

4. Add the sifted flours and mix until fully incorporated.

5. Spread on a sheet pan lined with parchment and freeze 6. Roll the sablé dough to ⅛ in/0.3 cm thick. Cut the dough into sheets to fit full sheet pans and bake in a preheated 325°F/163°C convection oven until desired color is achieved. Once cool, crush sheets into large pieces and grind until fine.

SABLÉE BRETON

MAKES 2 LB 13¼ OZ/1.28 KG DOUGH (SIX 6-IN/15-CM CIRCLES)

INGREDIENT	U.S.	METRIC
Sugar	11¼ oz	320 g
Finely grated orange zest	2 tsp	4 g
Butter, room temperature	11¼ oz	320 g
Egg yolks	5¾ oz	160 g
All purpose flour	1 lb	450 g
Baking powder	1 oz	30 g
Egg wash	As needed	As needed
Fleur de Sel, for garnish	As needed	As needed

1. In the bowl of a mixer, combine the sugar and orange zest. Stir to combine. Add the butter and cream with a paddle attachment on medium speed until light and aerated, about 5 minutes.

2. On low speed, gradually add the yolks and mix until smooth.

3. Sift the flour, baking powder, and salt and add to the wet mixture. Mix on low speed until the dough just comes together. Wrap the dough and place in the refrigerator to chill until firm, about 20 minutes.

4. Roll out dough ¼ in/0.6 cm thick and cut to into six 6-in/15-cm circles. Place the rounds in greased metal rings on a sheet pan. Lightly brush the top of each cookie with egg wash and sprinkle with fleur de sel.

5. Bake in a 325°F/163°C convection oven until golden brown, 20 to 25 minutes. Transfer to racks and cool completely. Store in an airtight container.

SHORTBREAD COOKIES

MAKES 2 LB 13 OZ/1.28 KG DOUGH

INGREDIENT	U.S.	METRIC
Cake flour	1 lb 5 oz	600 g
Salt	1½ tsp	9 g
Sugar	8 oz	230 g
Butter, soft	1 lb	450 g

1. Line sheet pans with parchment paper.

2. Sift together the flour, salt, and sugar into a mixer bowl.

3. Add the butter and mix with the paddle on low speed until homogeneous, about 2 minutes.

4. Divide the dough into four equal pieces, wrap tightly in plastic wrap and chill the dough until it is firm enough to roll.

5. Roll out the dough on a lightly floured work surface to ¼ in/0.6 cm thick. Cut into rectangles 2 by 3 in/5 by 8 cm and transfer to the prepared sheet pans. Collect the scraps of dough, keeping them flat and layering them to prevent over working, add a small amount of water, if necessary to make a workable dough, press together, wrap, and refrigerate until firm enough to reroll and cut out additional cookies.

6. Chill for 30 minutes.

7. Bake at 350˚F/177°C until lightly browned, about 20 minutes. Transfer to racks and cool completely. Store in an airtight container.

VARIATION

CHOCOLATE SHORTBREAD *Substitute 3 oz/90 g cocoa powder for 3 oz/90 g flour.*

CITRUS SHORTBREAD *Add 1 tbsp/9 g citrus zest.*

HAZELNUT SHORTBREAD *Reduce the cake flour to 1 lb 2 oz/510 g and add 6 oz/170 g toasted and finely ground hazelnuts or walnuts.*

VANILLA SHORTBREAD

MAKES 1 LB 5¾ OZ/617 G

INGREDIENT	U.S.	METRIC
All-purpose flour	12 oz	340 g
Salt	½ tsp	6 g
Vanilla bean, scraped seeds	1	1
Confectioners' sugar	3¾ oz	110 g
Butter	8 oz	230 g

1. Combine all of the ingredients in the bowl of a mixer fitted with a paddle attachment and mix until smooth.
2. Roll the dough into a rectangle ¼ in/0.6 cm in thickness and bake in a preheated oven until just starting to set and the edges begin to take color.
3. Cut into 5-in by 1½-in/12-cm by 4-cm rectangles and chill.

CHOCOLATE COOKIES

MAKES 3 LB 2 OZ/1.43 KG DOUGH, 2 DOZEN COOKIES (2½ IN/6 CM)

INGREDIENT	U.S.	METRIC
Butter, soft	1 lb	450 g
Confectioners' sugar	6 oz	170 g
Eggs, 70°F/21°C	2	2
Milk, 70°F/21°C	2 oz	60 g
Vanilla extract	1 tbsp	15 mL
Cake flour	1 lb 3 oz	540 g
Dutch-process cocoa powder	5 oz	140 g
Baking powder	½ oz	14 g
Salt	1 tsp	6 g

1. Cream the butter and sugar with the paddle attachment, starting on low speed homogeneous, about 4 minutes. Scrape down the bowl as needed.

2. Combine the eggs, milk, and vanilla and add in three additions to the mixer, scraping down the bowl after each addition.

3. Sift together the flow, cocoa powder, baking powder, and salt and add all at once. Mixing until just combined.

4. Wrap the dough with plastic wrap and chill until firm, about 2 hours.

5. Roll out the dough to ⅛ inch/0.3 cm thick.

6. Cut out circles with a 2½-in/6-cm fluted cutter and place them on parchment-lined sheet pans. Freeze circles until firm, about 2 hours.

7. Place on parchment-lined sheet pans and bake in a 300°F/149°C oven for about 5 to 6 minutes or until just lightly browned. Transfer to racks and cool completely. Store in an airtight container.

VANILLA KIPFERL

MAKES 12 DOZEN COOKIES

INGREDIENT	U.S.	METRIC
Butter, soft	14 oz	400 g
Confectioners' sugar	6 oz	170 g
Ground cinnamon	1 tsp	2 g
Salt	Pinch	Pinch
Vanilla extract	1½ tsp	7.5 mL
Egg yolks	¾ oz	20 g
Cake flour, sifted	1 lb	450 g
Hazelnuts, toasted and finely ground	4 oz	110 g
Confectioners' sugar or Vanilla Sugar (page 1080)	As needed	As needed

1. Line sheet pans with parchment paper.

2. Cream the butter, confectioners' sugar, cinnamon, and salt with the paddle attachment, starting on low speed and increasing to medium speed, until light and smooth, about 8 minutes. Scrape down the bowl as needed.

3. Combine the vanilla and the egg yolks. Add to the creamed mixture and mix until smooth and evenly blended. Turn off the mixer and add all of the flour and the ground hazelnuts. On low speed, mix until just blended, scraping down the bowl as needed to blend evenly.

4. Wrap the dough tightly in plastic wrap and chill until firm enough to roll.

5. Shape the dough into ropes ½ in/1 cm in diameter. Cut each rope into 2-in/5-cm lengths and gently form into tapered crescent shapes. Place in even rows on the prepared sheet pans.

6. Bake at 350°F/177°C until golden around the edges, 10 to 12 minutes.

7. While the cookies are still warm, toss gently in confectioners' sugar to coat. Cool completely and repeat when cooled. Store in an airtight container.

RUSSIAN TEA COOKIES

MAKES 100 COOKIES (1 OZ/28 G EACH)

INGREDIENT	U.S.	METRIC
Walnuts, chopped	12 oz	340 g
Confectioners' sugar	5 oz	140 g
Butter	1 lb	450 g
Vanilla extract	1½ tsp	7.5 mL
Rum	1½ tsp	7.5 mL
All-purpose flour	1 lb 1 oz	480 g
Confectioners' sugar, for dusting	As needed	As needed

1. Line sheet pans with parchment paper.

2. Grind the walnuts to a fine meal with 1¾ oz/50 g of the sugar in a food processor.

3. Cream the butter, the remaining 3¼ oz/90 g sugar, the vanilla, and rum with the paddle attachment on medium speed until light and smooth, 5 to 6 minutes. Scrape down the bowl as needed. On low speed, mix in the flour and ground nuts until just blended. Scrape down the bowl as needed during mixing to blend evenly. Chill for at least 1 hour if necessary, or until firm enough to form.

4. Roll the dough into ¾-in/2-cm balls and flatten slightly, or scoop the dough using a #50 scoop, and place on the prepared sheet pans.

5. Bake at 325°F/163°C until light golden brown, about 20 minutes.

6. While the cookies are still warm, transfer to racks and dust generously with confectioners' sugar. Cool to room temperature. Dust again with confectioners' sugar. Store in an airtight container.

CHEF'S NOTE

These cookies are also known as Mexican wedding cookies. They can also be made with pecans, cashews, almond, or pistachios.

MADELEINES

MAKES 10 DOZEN SMALL MADELEINES (1 IN/3 CM EACH)

INGREDIENT	U.S.	METRIC
All-purpose flour	6⅓ oz	180 g
Baking powder	¼ oz	7 g
Butter	6⅓ oz	180 g
Granulated sugar	6 oz	170 g
Light brown sugar	¾ oz	20 g
Lemon zest, grated	½ tsp	1.5 g
Salt	Pinch	Pinch
Eggs	7 oz	200 g
Vanilla extract	2 tsp	10 mL

1. Lightly coat madeleine pans with softened butter and dust with flour.

2. Sift together the flour and baking powder.

3. Cream the butter, sugars, and lemon zest with the paddle attachment, starting on low speed and increasing to medium speed, until light and fluffy, about 5 minutes. Scrape down the bowl as needed.

4. Combine the salt, eggs, and vanilla. Add to the butter-sugar mixture in two or three additions, mixing until fully incorporated after each addition.

5. Turn off the mixer and add the sifted dry ingredients, mixing on low speed and scraping down the bowl as needed during mixing to blend evenly.

6. Fill a pastry bag fitted with a #4 plain tip with the batter and pipe into the prepared madeleine pans, filling the molds three-quarters full.

7. Bake at 400°F/204°C until the edges are a medium golden brown, about 10 minutes.

8. Transfer the pans to racks and cool slightly before unmolding and serving. Store in an airtight container.

CHEF'S NOTE

Madeleine batter must be piped immediately after mixing.

CHOCOLATE MADELEINES

MAKES 10 DOZEN SMALL MADELEINES (1 IN/3 CM EACH)

INGREDIENT	U.S.	METRIC
Butter	5 oz	140 g
Semisweet chocolate, finely chopped	3 oz	90 g
Cocoa powder, sifted	2 tbsp	9 g
Sugar	6 oz	170 g
All-purpose flour, sifted	9 oz	260 g
Salt	Pinch	Pinch
Eggs	6 oz	170 g
Egg yolks	1 oz	30 g
Vanilla extract	1 tsp	5 mL

1. Lightly coat madeleine pans with softened butter and dust with flour.

2. Melt the butter and chocolate in a bowl over a pot of barely simmering water, whisking gently to blend. Remove from the heat.

3. Whisk together the cocoa powder, sugar, flour, and salt. Stir into the melted chocolate mixture. Blend the eggs, egg yolks, and vanilla extract, add to the batter, and stir until just combined.

4. Place the batter over a pot of barely simmering water and heat, stirring constantly, just until warm, about 2 minutes. Remove from the heat.

5. Fill a pastry bag fitted with a #2 plain tip with the batter and pipe into the prepared madeleine pans, filling each mold half full.

6. Bake at 375°F/191°C until firm to the touch and lightly crisp along the edges, about 12 minutes.

7. Turn out onto a parchment-lined sheet pan while still warm. Allow to cool completely and store in an airtight container.

SPRINGERLE

MAKES 6 DOZEN COOKIES

INGREDIENT	U.S.	METRIC
Cake flour	1 lb 4 oz	570 g
Bread flour	1 lb 4 oz	570 g
Baking soda	½ tsp	2.5 g
Anise seed, ground	½ oz	14 g
Confectioners' sugar	2 lb 8 oz	1.13 kg
Eggs	1 lb	450 g
Salt	Pinch	Pinch

1. Line sheet pans with parchment paper.

2. Sift together the flours, baking soda, and anise seed into a large bowl and make a well in the center.

3. Whip together the confectioners' sugar, eggs, and salt with the whip attachment on high speed to maximum volume, 3 to 5 minutes. Pour the egg mixture into the well of the dry ingredients and knead into a smooth dough.

4. Roll out the dough on a lightly floured work surface to ½ in/1 cm thick, and then press with springerle molds. Alternatively, roll with a springerle rolling pin and cut into cookies. (The yield above is based on rectangular molds 1 by 2 in/3 by 5 cm.) Place the cookies on the prepared sheet pans.

5. Air-dry the cookies for a minimum of 6 hours, until a slight crust forms.

6. Bake at 300°F/149°C until dry and set but still white with no hint of browning, about 25 minutes. Transfer to racks and cool completely. Store in an airtight container.

ALMOND ANISE BISCOTTI

MAKES 32 COOKIES

INGREDIENT	U.S.	METRIC
Bread flour	2 lb	910 g
Baking soda	1 tbsp	15 g
Eggs	1 lb 2 oz	510 g
Sugar	1 lb 3 oz	540 g
Salt	¾ tsp	4.5 g
Anise extract	2 tsp	10 mL
Almonds, whole, lightly toasted	1 lb 4 oz	570 g
Anise seed, chopped slightly	1¼ oz	40 g

1. Line a sheet pan with parchment paper.

2. Sift together the flour and baking soda.

3. Whip the eggs, sugar, salt, and anise extract with the whip attachment on high speed until thick and light in color, about 5 minutes. On low speed, mix in the sifted flour mixture until just incorporated. Add the almonds and anise seed and blend by hand until evenly combined.

4. Form the dough into a log 4 in/10 cm wide by 16 in/41 cm long and place on the prepared sheet pan.

5. Bake at 300°F/149°C until light golden brown and firm, about 1 hour. Remove the pans from the oven and cool for 10 minutes. Lower the oven temperature to 275°F/135°C.

6. Using a serrated knife, cut each strip crosswise into slices ½ in/1 cm thick. Place on sheet pans and bake, turning the biscotti once halfway through the baking time, until golden brown and crisp, 20 to 25 minutes. Transfer to racks and cool completely. Store in an airtight container.

LEFT TO RIGHT: *Orange biscotti, chocolate almond biscotti, pistachio biscotti*

CHOCOLATE BISCOTTI

MAKES 48 COOKIES

INGREDIENT	U.S.	METRIC
Bread flour	1 lb 6 oz	620 g
Baking soda	1 tbsp	15 g
Cocoa powder	3½ oz	100 g
Eggs	1 lb 2 oz	510 g
Sugar	1 lb 1 oz	480 g
Vanilla extract	1 tbsp	15 mL
Almond extract	1 tsp	5 mL
Salt	¾ tsp	4.5 g
Chocolate chunks, coarsely chopped	15 oz	430 g

1. Line a sheet pan with parchment paper.
2. Sift together the flour, baking soda, and cocoa powder.
3. Whip the eggs, sugar, vanilla and almond extracts, and salt with the whip attachment on high speed until thick and light in color, 6 to 8 minutes. On low speed, mix in the sifted dry ingredients until just incorporated. Using a rubber spatula, fold in the almonds and chocolate.
4. Form the dough into a strip 24 in/61 cm long on the prepared sheet pan.
5. Bake at 300°F/149°C until a skewer inserted in the center of the strip comes out clean, about 1 hour. Remove from the oven and cool for 5 to 10 minutes. Lower the oven temperature to 275°F/135°C.
6. Using a serrated knife, cut the strip into slices ½ in/1 cm thick. Place on prepared sheet pans and bake for 12 minutes. Flip the biscotti over and continue baking until completely dried and crisp, 12 to 15 minutes. Transfer to racks and cool completely. Store in airtight container.

ALMOND SPRITZ COOKIES

MAKES 12 DOZEN COOKIES

INGREDIENT	U.S.	METRIC
Almond paste	10 oz	280 g
Egg whites	7 oz	200 g
Butter, soft	1 lb 4 oz	570 g
Sugar	10 oz	280 g
Salt	1½ tsp	9 g
Rum	1½ tsp	7.5 mL
Vanilla extract	1 tbsp	15 mL
Cake flour, sifted	1 lb 7 oz	650 g
Raspberry jam	6 oz	170 g

1. Line sheet pans with parchment paper.

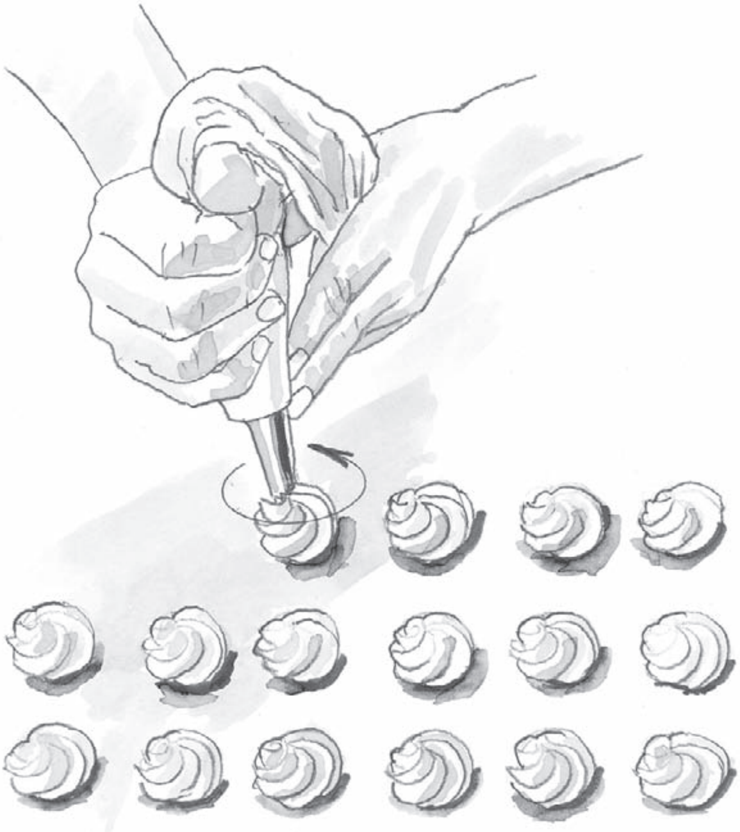
2. Blend the almond paste with 1 oz/30 g of the egg whites (about one white) with the paddle attachment on low speed until smooth. Add the butter, sugar, and salt and cream together on medium speed until light and fluffy, 5 minutes. Add the remaining 6 oz/170 g egg whites, the rum, and vanilla and mix until completely blended. On low speed, mix in the flour until just blended.

3. Using a pastry bag fitted with a #4 star tip, pipe the dough onto the prepared sheet pans into rounds 1½ in/4 cm in diameter. Make a small indentation in the center of each round using a skewer. Using a parchment cone, pipe a little raspberry jam into each indentation.

4. Bake at 375°F/191°C until light golden brown, about 10 minutes. Transfer to racks and cool completely. Store in airtight container.

CHEF'S NOTE

If desired, dip half of each cookie in tempered chocolate after they have completely cooled.



Piping free-form cookies

ANISE COOKIES

MAKES 5 DOZEN COOKIES

INGREDIENT	U.S.	METRIC
Cake flour	6 oz	170 g
Bread flour	3 oz	90 g
Confectioners' sugar, sifted	8½ oz	240 g
Eggs	4½ oz	130 g
Egg yolks	1 oz	30 g
Anise seed, crushed	1 tbsp	10 g
Anise extract	1 tsp	5 mL

1. Line sheet pans with parchment paper.

2. Sift together the cake and bread flours.

3. Blend the sugar, eggs, and egg yolks in the bowl of the mixer and heat over a pan of barely simmering water, whisking constantly, until the mixture reaches 110°F/43°C. Remove from the heat.

4. Whip on high speed to the ribbon stage with the whip attachment. Fold in the sifted dry ingredients with a rubber spatula. Fold in the anise seed and extract until just incorporated.

5. Using a pastry bag fitted with a #5 plain tip, pipe the batter into drops 1 in/3 cm in diameter on the prepared sheet pans.

6. Bake at 375°F/191°C until light golden brown, about 10 minutes. Transfer to racks and cool completely. Store in an airtight container.

COCONUT MACAROONS

MAKES 100 MACAROONS (1 IN/3 CM DIAMETER)

INGREDIENT	U.S.	METRIC
Egg whites	8 oz	230 g
Sugar	1 lb 1 oz	480 g
Desiccated coconut	1 lb 6 oz	620 g
Vanilla extract	1 tsp	5 mL
Coating chocolate, melted, for dipping (optional)	As needed	As needed

1. Line sheet pans with parchment paper.

2. Combine the egg whites and sugar in a bowl and heat over simmering water until the mixture reaches 140°F/60°C, whisking constantly. Remove from the heat and mix in the coconut and vanilla with a wooden spoon until just incorporated.

3. Using a #100 scoop, portion the batter, pressing each scoop lightly, and place in even rows on the prepared pans. Air-dry until slightly dry, about 1 hour.

4. Bake at 375°F/191°C until they are light golden brown, about 12 minutes. Cool completely on the pans.

5. If desired, dip the macaroons in melted chocolate. Allow to harden before storing in an airtight container.

COCONUT ROCHERS

MAKES 1 LB 9 OZ/702 G

INGREDIENT	U.S.	METRIC
Sugar	9 oz	260 g
Cornstarch, sifted	½ oz	14 g
Egg whites	1 lb 9 oz	710 g
Salt	Pinch	Pinch
Vanilla extract	1 tbsp	15 mL
Desiccated coconut	10 oz	280 g

1. In a bowl, combine the sugar and cornstarch.

2. Add the egg whites, salt, and vanilla, and bring to 145°F/63°C, stirring constantly but not whisking.

3. Add the coconut and stir for an additional 3 minutes.

4. Pour on a parchment-lined sheet pan, cover with plastic wrap, and refrigerate overnight.

5. To finish, scoop ¾-oz/20-g portions of the chilled mixture and roll into balls.

6. Bake on parchment-lined sheet pans in a 325°F/163°C convection oven until lightly golden brown, 15 minutes. Place the pans on wire racks and allow the cookies to cool completely. Store in an airtight container.

ALMOND MACARONS

MAKES 100 MACARONS (1 IN/3 CM EACH)

INGREDIENT	U.S.	METRIC
Sugar	1 lb 4 oz	570 g
Egg whites	6 oz	170 g
Almond paste	1 lb	450 g
Vanilla extract	2 tsp	10 mL
Almond extract	2 tsp	10 mL

1. Line sheet pans with parchment paper.

2. Combine 1 lb/450 g of the sugar and the egg whites in a bowl and heat over simmering water, whisking constantly, until the mixture reaches 140°F/60°C. Remove from the heat and mix in the almond paste, vanilla extract, and almond extract with a wooden spoon until just incorporated.

3. Using a pastry bag fitted with a #6 plain tip, pipe rounds 1 in/3 cm in diameter in even rows on the prepared pans.

4. Before baking, use a folded damp towel to touch the tops of the cookies, just enough to moisten them. Sprinkle with the remaining sugar.

5. Bake at 375°F/191°C until light golden brown, about 12 minutes. Cool completely on the pans. Store in an airtight container.

CHOCOLATE FRENCH MACARONS

MAKES 150 MACARONS (1 IN/3 CM EACH)

INGREDIENT	U.S.	METRIC
Almond flour	13 oz	370 g
Cocoa powder	2½ oz	70 g
Confectioners' sugar	1 lb 12 oz	790 g
Egg white powder	½ oz	14 g
Granulated sugar	6 oz	170 g
Egg whites	14 oz	400 g
Red food color	2–3 drops, or as needed	

1. Line a sheet pan with parchment paper. Fit a piping bag with a #3 tip. Line three full sheet pans with silicone mats.

2. Place the almond flour on the parchment-lined sheet pan and dry out in a 200°F/93°C oven for 15 minutes.

3. Process the almond flour, cocoa, and one-third of the confectioners' sugar in a food processor until finely ground, 1 to 2 minutes. Sift the mixture through a fine-mesh sieve.

4. Combine the egg white powder with the granulated sugar.

5. Make a French meringue: Place the egg whites in the bowl of a mixer and mix with the whip attachment on high speed until frothy, about 1 minute. Slowly sprinkle in the egg white powder–sugar mixture while mixing on high speed. Scrape down sides of bowl with a spatula. Add the food coloring and whip on high speed until medium peaks form.

6. Place meringue in a large bowl and fold the almond flour mixture into the meringue in three additions. Once the batter has about a 4-second ribbon or "puddles" a little, it has been folded enough.

7. Pipe macaroons about the size of a quarter onto the silicone baking mats.

8. Let sit at room temperature for about 1 hour.

9. Bake in 275°F/135°C convection oven until domed in the center, 12 to 13 minutes. Place on wire cooling racks and allow to cool completely. Store in a airtight container.

Chocolate French Macarons (page 373)

COFFEE MACARONS

MAKES 10 MOUNDS (5 IN/13 CM EACH) OR 100 MACAROONS (1 IN/3 CM EACH)

INGREDIENT	U.S.	METRIC
Egg white powder	¼ oz	10 g
Granulated sugar	2 oz	60 g
Confectioners' sugar	1 lb	450 g
Almond flour	8¾ oz	250 g
Decaffeinated coffee granules	4 packets	4 packets
Egg whites	7 oz	200 g

1. Line sheet pans with parchment paper.

2. Combine the egg white powder and granulated sugar.

3. Sift the confectioners' sugar and combine with the almond flour and coffee granules.

4. In the bowl of an electric mixter fitted with the whip attachment, beat the egg whites until frothy. With the mixer on medium speed, stream the granulated sugar into the egg whites. Whip on high speed to make a soft-peak meringue .Gently fold the almond flour–coffee mixture into the meringue.

5. Using a pastry bag fitted with a medium-size plain tip, pipe the dough onto the prepared pans using a 5-in/13-cm stencil. Let the dough sit for 30 minutes.

6. Bake in a 275°F/135°C convection oven until golden brown, about 10 minutes. Cool completely on the pans. Store in an airtight container.

CHECKERBOARD COOKIES

MAKES 10 DOZEN COOKIES

INGREDIENT	U.S.	METRIC
VANILLA DOUGH		
Cake flour	2 lb 4 oz	1.02 kg
Butter, cold, small cubes	1 lb 12 oz	780 g
Confectioners' sugar	13½ oz	380 g
Salt	Pinch	Pinch
Orange zest, grated	2 tsp	6 g
Egg yolks	8 oz	230 g
Vanilla extract	2 tsp	10 mL
CHOCOLATE DOUGH		
Cake flour	15 oz	430 g
Cocoa powder	3 oz	90 g
Butter, cold, small cubes	14 oz	400 g
Confectioners' sugar	6¾ oz	190 g
Orange zest, grated	1 tsp	3 g
Salt	Pinch	Pinch
Egg yolks	4 oz	110 g
Vanilla extract	1 tsp	5 mL

1. Line sheet pans with parchment paper.

2. To make the vanilla dough, sift the flour. Cream together the butter, sugar, salt, and orange zest with the paddle attachment, starting on low speed and increasing to medium speed until smooth, about 8 minutes. Gradually add the egg yolks and vanilla, mixing until fully incorporated after each addition and scraping down the bowl as needed. On low speed, mix in the sifted flour just until incorporated.

3. Divide the vanilla dough into four pieces. Form each piece into a square 5 by 5 in/13 by 13 cm and ½ in/1 cm thick, wrap in plastic wrap, and refrigerate until firm enough to roll.

4. Meanwhile, make the chocolate dough. Sift together the flour and cocoa powder. Cream together the butter, sugar, orange zest, and salt with the paddle attachment, starting on low speed and increasing to medium speed, until light and smooth, 6 to 8 minutes. Gradually add the egg yolks and vanilla to the butter-sugar mixture, mixing until fully incorporated after each addition and scraping down the bowl as needed. On low speed, mix in the sifted dry ingredients until just incorporated.

5. Divide the chocolate dough in half. Form each piece into a square 5 by 5 in/13 by 13 cm and ½ in/1 cm thick, wrap in plastic wrap, and refrigerate until firm enough to roll.

6. Working on a lightly floured work surface, roll out one piece of the vanilla dough into a square about 6 by 6 in/15 by 15 cm and ¼ in/0.6 cm thick; set aside. Roll out a piece of the chocolate dough to the same dimensions. Brush the vanilla dough lightly with water and gently press the chocolate dough on top. Roll out another piece of vanilla dough to the same dimensions, brush the chocolate layer lightly with water, and gently press the vanilla dough on top. Roll out the remaining

piece of chocolate dough to the same dimensions, brush the vanilla layer lightly with water, and gently press the chocolate dough on top. Wrap the layered dough in plastic wrap and refrigerate or freeze until firm enough to cut.

7. Trim the edges of the layered dough square to even them to 6 by 6 in/15 by 15 cm.

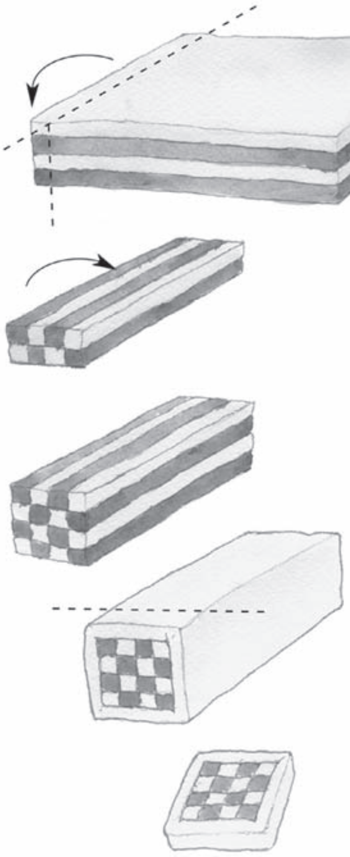
8. Cut the square into twenty-four ¼-in/0.6-cm strips. Form 6 logs of 4 strips each, stacking them so the chocolate and vanilla doughs alternate to form a checkerboard.

9. Roll out one piece of the vanilla dough on a lightly floured work surface into a strip 6 by 15 in/15 by 38 cm and 1⁄16 in/0.15 cm thick; cut this in thirds to form 3 strips, 5 by 6 in/13 by 15 cm. Brush the vanilla dough lightly with water, place one of logs on one strip, and roll up, gently pressing each side on the counter to adhere the vanilla dough "casing." Smooth the overlapping side. Repeat the process with the remaining two strips of vanilla dough and checkerboard logs.

10. Repeat the process, rolling out the remaining piece of vanilla dough and covering the remaining logs.

11. Wrap the logs in plastic wrap and refrigerate until firm enough to cut.

Checkerboard, Ribbon, and Pinwheel Cookies



TOP TO BOTTOM: *Roll two squares of vanilla dough 6 by 6 in/15 by 15 cm, ¼ in/0.6 cm thick. Repeat the process with the chocolate dough. Brush a chocolate square of dough with water; place a vanilla layer on top. Brush with water, and repeat process with the second chocolate and vanilla dough, for a total of 4 layers. Refrigerate until firm. Carefully cut into slices ¼ in/0.6 cm thick.*

Assemble the block by layering 4 slices on top of each other, brushing with water between the layers, alternating the colors to form a checkerboard. Refrigerate until firm.

Roll a piece of vanilla dough ⅛ in/0.3 cm thick, brush with water, and wrap around the checkerboard block. Refrigerate until firm. Slice the block ¼ in/0.6 cm thick and bake.

12. Trim one end of each log and cut 20 cookies, each ¼ in/0.6 cm thick, from each log. Place on the prepared sheet pans.

13. Bake at 350°F/177°C until lightly brown on the edges, 15 minutes. Transfer to racks and cool completely. Store in an airtight container.

VARIATION

This recipe can be used to make ribbon and pinwheel cookies.

PINWHEEL COOKIES *Roll one square of vanilla cookie dough 6 by 6 in/15 by 15 cm, ¼ in/0.6 cm thick. Repeat process with a piece of chocolate dough. Brush the chocolate square of dough with water, place the vanilla layer on top, brush with water, and roll the square into a cylinder.*

Refrigerate, slice and bake.

RIBBON COOKIES: *Divide the chocolate and vanilla doughs into three equal pieces. Roll each piece into a rope about 1in/3 cm thick. Place a chocolate rope on top of a vanilla rope and gently twist the two together, pushing forward with one hand and pulling backward with the other. Roll the twisted rope into a log about 1½ in/4 cm in diameter. Fold the dough over on itself and roll out again to the same diameter. Chill the dough before slicing and baking.*

LADYFINGERS

MAKES 170 COOKIES

INGREDIENT	U.S.	METRIC
Egg yolks	10 oz	280 g
Granulated sugar	13 oz	370 g
Egg whites	13 oz	370 g
Cake flour, sifted	12 oz	340 g
Confectioners' sugar	As needed	As needed

1. Line sheet pans with parchment paper.

2. Whip the egg yolks with 5 oz/140 g of the granulated sugar with the whip attachment on high speed until thick and light, about 8 minutes.

3. Whip the egg whites on medium speed with a clean whip attachment until soft peaks form. Add the remaining 8 oz/230 g of the granulated sugar to the whites in a steady stream, then increase to high speed and whip until medium peaks form.

4. Working quickly but gently, fold the egg whites into the yolks. Fold in the sifted cake flour.

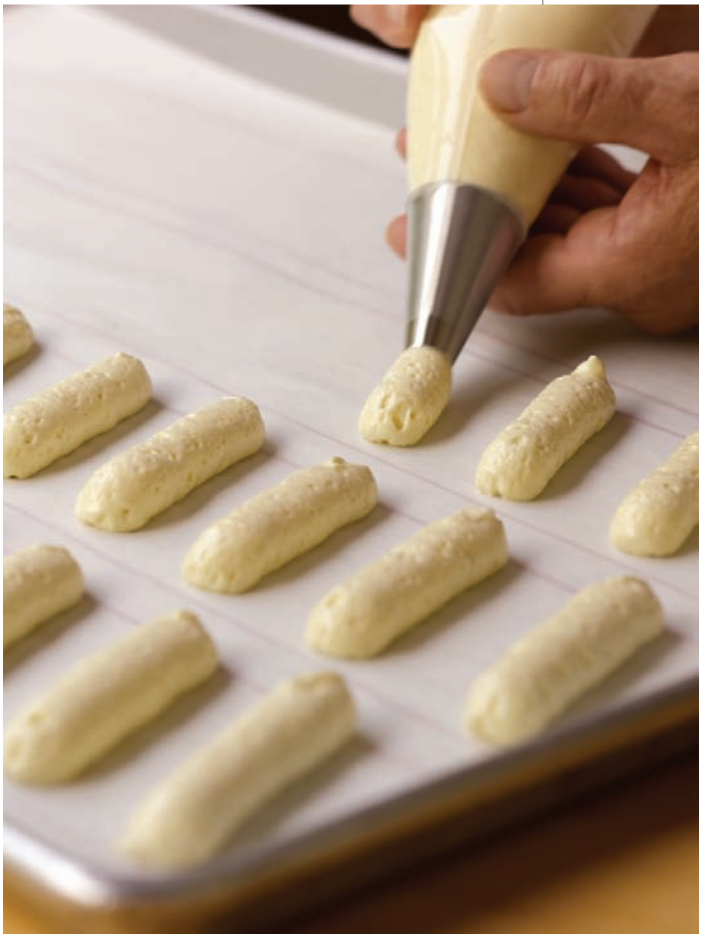
5. Fill a pastry bag fitted with a #4 plain tip with the batter and pipe into 3-in/8-cm lengths on the prepared pans. Dust generously with confectioners' sugar.

6. Bake at 400°F/204°C until the edges turn a light golden brown, about 15 minutes.

7. Transfer to racks and cool completely. Store in an airtight container.

VARIATION

CHOCOLATE LADYFINGERS *Substitute 2 oz/60 g cocoa powder for 2 oz/60 g of the cake flour and sift it with the flour before proceeding as directed above.*



Piping ladyfingers over a stencil ensures they are uniform in size.

CHOCOLATE PHYLLO

MAKES ABOUT 25 TRIANGLES

INGREDIENT	U.S.	METRIC
Phyllo dough	As needed	As needed
Clarified butter	4 oz	110 g
Cocoa powder	1 oz	30 g
Sugar	As needed	

1. Leave the frozen phyllo dough in the refrigerator for several hours or overnight to thaw.

2. Combine the clarified butter and cocoa powder.

3. Brush a sheet of phyllo with the butter–cocoa powder mixture and sprinkle lightly with sugar.

4. Repeat two more times, layering a new sheet of phyllo each time for a total of three sheets.

5. Cut into 4-in/10-cm-wide strips and cut triangles from the strip.

6. Place the triangles on a baking sheet lined with a silicone baking mat and place another silicone baking mat on top.

7. Bake in a preheated 325°F/163°C convection oven for 8 minutes. Allow to cool completely and remove the top silicone mat. If the triangles are not crispy, return them to the oven for a few minutes until they are so.

8. Allow to cool completely and store in an airtight container.

LACE NUT TUILES

MAKES 100 COOKIES

INGREDIENT	U.S.	METRIC
Walnuts, pecans, hazelnuts, or almonds, shelled	10 oz	280 g
Sugar	10 oz	280 g
Butter, soft	8 oz	230 g
Orange zest, grated	1 oz	30 g
Light corn syrup	10 oz	280 g
All-purpose flour, sifted	3 oz	90 g

1. Line sheet pans with silicone baking mats. Have assembled shaping implements such as cups, dowels, or rolling pins, depending on the desired shapes.

2. Grind the nuts to a coarse meal.

3. Cream the sugar, butter, and orange zest with the paddle attachment on medium speed until light and smooth, about 5 minutes. Scrape down the bowl as needed. Gradually add the corn syrup, mixing until smooth and evenly blended. On low speed, mix in the flour. Fold in the nuts by hand, or mix on low speed until just combined. Scrape down the bowl as needed to blend evenly.

4. Roll the dough into 1-in/3-cm balls. Place 4 in/10 cm apart on the prepared pans and flatten slightly.

5. Bake at 350°F/177°C until an even light brown, 5 minutes. Remove from the oven and shape while still warm. Alternatively, leave the cookies flat and cool in the pans on racks. Store in an airtight container.

CHOCOLATE TUILES

MAKES 15 OZ/430 G BATTER

INGREDIENT	U.S.	METRIC
Cake flour	2⅓ oz	70 g
Dutch-process cocoa powder	1¼ oz	40 g
Butter	2¼ oz	60 g
Confectioners’ sugar	4½ oz	130 g
Egg whites, room temperature	3½ oz	100 g
Vanilla extract	1 tsp	5 mL
Confectioners’ sugar, for dusting	As needed	As needed

1. Line sheet pans with silicone baking mats. Have assembled shaping implements such as cups, dowels, or rolling pins, depending on the desired shapes.

2. Sift together the cake flour and cocoa powder.

3. Cream together the butter and sugar with the paddle attachment, starting on low speed and increasing to medium speed until smooth, 5 minutes. Scrape down the bowl as needed.

4. Add the egg whites and vanilla and mix on medium speed until fully incorporated. Scrape down the bowl as needed.

5. Turn off the mixer and add the dry ingredients. Mix on low speed until just incorporated. Do not overmix.

6. Thinly spread the batter over a stencil on the silicone baking mat, using a small offset spatula.

7. Bake at 325°F/163°C until golden brown but still soft, 8 to 10 minutes.

8. Using a rolling pin or similar rounded item, shape a curve in the tuile while still hot. Reheat as necessary to shape.

9. Store in an airtight container and dust with confectioners’ sugar as needed for assembly.

VARIATION

To make a chocolate tuile disk, spread the batter into a 2-in/5-cm round stencil that is the same size as the tart ring and bake at 325°F/163°C for 6 minutes.

BANANA TUILES

MAKES 15¾ OZ/447 G BATTER

INGREDIENT	U.S.	METRIC
Banana purée	9 oz	260 g
Water	2¼ oz	70 g
Cake flour	2¼ oz	60g
Confectioners’ sugar	2¼ oz	60 g
Chocolate Tuile batter (page 381)	As needed	As needed

1. Line a sheet pan with a silicone baking mat. Have assembled shaping implements such as cups, dowels, or rolling pins, depending on the desired shapes.

2. Combine the banana purée, water, cake flour, and confectioners’ sugar in a 1 qt/960 mL bain-marie and pulse with an immersion blender until smooth, 1 minute.

3. Lightly spray cooking spray over the silicone mats.

4. Using an offset spatula, spread a thin layer of the banana tuile batter onto your chosen stencil.

5. With a parchment cone, pipe a little Chocolate Tuile batter onto the spread banana tuile batter using squiggly lines or the design of your choice.

6. Bake at 275°F/135°C until golden brown, 8 to 9 minutes.

7. Using a rolling pin or similar rounded item, shape the tuile into a curve while still hot. Reheat as necessary to shape.

8. Cool to room temperature and store in an airtight container.

HONEY TUILES

MAKES 2 LB 12½ OZ/1.26 KG BATTER

INGREDIENT	U.S.	METRIC
All-purpose flour	13 oz	370 g
Confectioners' sugar	10 oz	280 g
Butter, soft	10½ oz	300 g
Honey	6 oz	170 g
Egg whites	5 oz	140 g

1. Line sheet pans with silicone baking mats. Have assembled shaping implements such as cups, dowels, or rolling pins, depending on the desired shapes. Using an offset spatula and the desired stencil, spread the batter onto the prepared sheet pans.

2. Sift together the flour and confectioners' sugar.

3. Cream together the butter and honey on medium speed with the paddle attachment until smooth, about 5 minutes. Add the egg whites, blending until fully incorporated. On low speed, mix in the flour mixture. Scrape down the bowl as needed during creaming and mixing to blend evenly.

4. Transfer the batter to a storage container, cover, and refrigerate until firm enough to spread without running.

5. Thinly spread the batter over a stencil on the silicone baking mat, using a small offset spatula.

6. Bake at 325°F/163°C until golden brown, about 10 minutes. Remove from the oven and shape while still warm. Reheat as necessary to shape. Alternatively, leave the cookies flat and cool in pans on racks. Store in an airtight container.

VARIATION

CHOCOLATE HONEY TUILES *Substitute cocoa powder for 2 oz/60 g of the all-purpose flour and sift the two together with the confectioners' sugar.*

NOUGATINE TUILES

MAKES 1 LB 14 OZ/850 G BATTER

INGREDIENT	U.S.	METRIC
Glucose syrup	8 oz	230 g
Sugar	8 oz	230 g
Almonds, finely ground	8 oz	230 g
Butter	6 oz	170 g

1. Line a half sheet pan with a silicone baking mat.

2. Heat the glucose syrup and sugar in a heavy-bottomed saucepan over medium heat until the sugar dissolves. Add the almonds and butter and bring to a boil. Remove from the heat.

3. Spread onto the prepared sheet pan while it is still warm. As it starts to cool, cover with parchment and roll out to an even thickness.

4. Bake at 325°F/163°C until golden brown, about 15 minutes.

5. Flip the sheet of nougatine onto a sheet of parchment paper and cut into desired shapes, then bend to shape as desired. Reheat as necessary to shape. Store in an airtight container.

APPLE CIDER TUILES

MAKES 7.05 OZ/200 G

INGREDIENT	U.S.	METRIC
Sugar	3 oz	85 g
All-purpose flour	⅔ oz	18 g
Almond flour	1½ oz	43 g
Apple cider	1½ oz	43 g
Butter, melted	⅔ oz	18 g

1. Line a sheet pan with a silicone baking mat.

2. Combine the sugar, almond flour, and all-purpose flour in a bowl. Stir in the apple cider and mix well. Do the same with the melted butter. Mix until you obtain a homogeneous mass.

3. Place in an ice bath to firm up, making it easier to spread.

4. Thinly spread the batter on the silicone baking mat, using an offset spatula.

5. Bake in a 320°F/160°C convection oven until golden brown.

6. Cut into 10 by 1-in/25 by 3-cm strips using a ruler and a wheel cutter. While warm, wrap around a PVC tube 3 in/8 cm in diameter. If the dough gets too hard, return to oven to soften.

7. Reserve in an airtight container up to 3 days.

CHOCOLATE CARAMEL TUILES

MAKES 1 LB 2½ OZ/520 G BATTER

INGREDIENT	U.S.	METRIC
Fondant	8 oz	230 g
Glucose syrup	7 oz	200 g
Chocolate 65%, finely chopped	3½ oz	100 g

1. Line three sheet pans with silicone baking mats.

2. Place the fondant and glucose in a large nonreactive saucepot and bring to a boil at 311°F/155°C.

3. Remove from heat and add the chocolate. Pour onto one silicone mat and spread to about ⅛ in/0.3 cm thick. Let cool completely, 20 to 30 minutes.

4. Once the mixture is cool, break up into pieces and grind in a food processor. Sift through a fine-mesh sieve onto two silicone baking mats and place another silicone baking mat on top of each.

5. Bake at 325°F/163°C for 8 minutes. Let cool to 70°F/21°C before removing the top silicone mats.

6. Rewarm for 30 seconds at 325°F/163°C to make more pliable.

7. Flip over onto pieces of parchment paper and remove the silicone mats. Cut and mold as desired.

FIG TUILES

MAKES 1 LB/450 G

INGREDIENT	U.S.	METRIC
Figs, dried	10 oz	280 g
Water	2 oz	60 g
Sugar	5 oz	140 g
Pectin, powdered	2 tsp	10 g

1. Combine the figs, water and 4 oz/ 110 g of the sugar in a saucepot and bring to a boil over medium heat.

2. Mix together the pectin and the remaining 1 oz/30 g sugar and add to the mixture on the heat.

3. Boil the mixture until the figs are soft. Process the mixture to a homogeneous mass. Using a tablespoon of base at a time, spread the tuiles thin with an offset spatula onto a parchment-lined sheet pan.

4. Bake in a low oven until crisp. Hold in an air-tight container.

BLUEBERRY TUILE

MAKES 12 OZ/340 G BATTER

INGREDIENT	U.S.	METRIC
Blueberry purée	10 oz	280 g
Sugar	1¾ oz	50 g
Ultratex 3	¼ oz	7 g

1. Line a sheet pan with a silicone baking mat.

2. Combine all of the ingredients in a blender and pulse until smooth.

3. Spread the batter in a thin (about ¹⁄₁₆-in/0.15 thickness), even layer on the sheet pan.

4. Bake in a 265°F/129°C convection oven, fan #2, vent open, for about 20 minutes. Make sure the tuile does not discolor and check for doneness; it should be crisp when cool. Store in an airtight container.

MERINGUE STICKS

MAKES 3 LB/1.36 KG MERINGUE

INGREDIENT	U.S.	METRIC
Sugar	2 lb	910 g
Egg whites	1 lb	450 g
Cocoa nibs, crushed	As needed	As needed
Cocoa powder	As needed	As needed

1. Line a sheet pan with parchment paper.

2. Place the sugar and egg whites in the bowl of a double boiler. Gently whisk the mixture until it reaches 140°F/60°C. Whip the mixture with the whip attachment on high speed until stiff peaks form. Continue whipping until cool.

3. Fill a pastry bag fitted with a #2 or #3 plain tip with the meringue and pipe sticks 3 to 4 in/8 to 10 cm long onto the prepared pan. Sprinkle one-third of the sticks with cocoa nibs, sprinkle one-third with cocoa powder, and leave one-third plain.

4. Dry overnight in the oven with the pilot light only or bake at 180°F/82°C until dry.

5. Store in an airtight container.

CRISPY MERINGUE

MAKES 2 FULL SHEET PANS

INGREDIENT	U.S.	METRIC
Maple sugar	2½ oz	70 g
Egg whites	1¾ oz	50 g
Confectioners' sugar	1 oz	30 g

1. Line two sheet pans with silicone baking mats.
2. Combine the maple sugar and egg whites and whisk to stiff peaks.
3. Add the confectioners' sugar and blend just until smooth. Spread to the desired thickness, but in a thin, even layer on the prepared pans.
4. Dry in a 150°F/66°C oven overnight.
5. Store in an airtight container.

GREEN TEA CLUSTERS

MAKES 10½ OZ/300 G

INGREDIENT	U.S.	METRIC
Green Matcha green tea powder	1 tbsp	10 mL
Confectioners' sugar	10 oz	280 g
Egg whites	½ oz	14 g

1. Line a sheet pan with a silicone baking mat.
2. Mix the green tea powder, sugar, and egg whites with a paddle attachment on low speed until clusters form. Spread in a very thin, even layer on the prepared pan.
3. Dry in a 220°F/104°C convection oven for 4 hours. Reserve in an airtight container until needed.

PEANUT CRISPY BASE

MAKES 10 TO 12 DISKS (2½ IN/6 CM IN DIAMETER)

INGREDIENT	U.S.	METRIC
Gianduja (page 958)	2½ oz	70 g
Crisp rice cereal	1 oz	30 g
Peanuts, blanched, dry roasted	1½ oz	40 g

1. Melt the gianduja to about 110°F/43°C in a bowl over barely simmering water.
2. Coarsely grind the rice cereal and peanuts in a food processor. Transfer to a bowl.
3. Pour the melted gianduja over the ground nuts and cereal and stir with a rubber spatula to combine.
4. Spread the chocolate mixture on a sheet of parchment paper, top with a second sheet, and roll out to ¹⁄₁₆ in/0.15 cm thick. Freeze the mixture in the parchment paper until firm.
5. Remove from the freezer and gently remove the top parchment paper. Cut disks with a straight-edge cutter 2½ in/6 cm in diameter. Reserve frozen until needed.

PEANUT BUTTER COCOA NIB CRISPY BASE

MAKES 1 LB 10 OZ/740 G

INGREDIENT	U.S.	METRIC
Milk chocolate, finely chopped	8½ oz	240 g
Peanut butter, smooth	10 oz	280 g
Pailleté feuilletine	6 oz	170 g
Caramelized cocoa nibs	1½ oz	40 g

1. Melt the milk chocolate over a water bath.
2. Add the peanut butter and combine.
3. Fold in the pailleté feuilletine.
4. Fold in the caramelized cocoa nibs. Store at room temperature.

MOUSSE/CRISPY CHOCOLATE

MAKES 2 FULL SHEET PANS

INGREDIENT	U.S.	METRIC
Egg whites	7 oz	200 g
Sugar	1¾ oz	50 g
Egg yolks	3	3
Chocolate, 64%, melted and kept warm	5 oz	140 g
Salt	Pinch	Pinch

1. Whip the egg whites and the sugar to firm peaks.

2. Whisk the egg yolks into the chocolate with the salt and then gently fold in the meringue.

3. Spread the mixture into a thin, even layer on two sheet pans lined with silicone baking mats. Dry out in a low oven overnight. Store in an airtight container.

COFFEE CRISPY BASE

MAKES 12 OZ/340 G

INGREDIENT	U.S.	METRIC
Dark chocolate, chopped	5 oz	140 g
Vegetable oil	1¼ oz	40 g
Butter	1 oz	30 g
Decaffeinated coffee granules	1 packet (1 tsp)	1 packet (2 g)
Pailleté feuilletine	5 oz	140 g

Melt the chocolate with the oil and butter. Blend in the coffee. Fold the mixture into the pailleté feuilletine. Press into prepared pans or molds according to the recipe. Allow to set completely before layering or unmolding.

DÉCOR BISCUIT

MAKES 2 FULL SHEET PANS

INGREDIENT	U.S.	METRIC
Confectioners’ sugar	12 oz	340 g
Almond flour	12 oz	340 g
All-purpose flour	5¾ oz	160 g
Heavy cream	3 oz	90 g
Egg whites	1 lb 11 oz	770 g
Granulated sugar	13¼ oz	380 g
Coconut, grated and sweetened, for sprinkling	As needed	As needed

1. Sift together the confectioners’ sugar and the flours.

2. Mix the dry ingredients with the cream and 5 oz/140 g of the egg whites with the paddle attachment on medium speed until it forms a smooth paste, about 5 minutes.

3. Line two sheet pans with parchment paper. In the bowl of an electric mixer fitted with the whip attachment, beat the remaining 1 lb 6 oz/620 g of egg whites until frothy. With the mixer on medium speed, add the granulated sugar in a steady stream and whip to medium peaks.

4. Fold the meringue into the almond mixture until just incorporated.

5. Spread 2 lb 3 oz/990 g of batter per sheet pan and then sprinkle with coconut.

6. Bake in a 350°F/177°C convection oven until golden brown, about 7 minutes. Completely cool in the pan. Store wrapped in plastic wrap.

DÉCOR PASTE

MAKES 1 LB 5 OZ/600 G

INGREDIENT	U.S.	METRIC
Butter	5¼ oz	150 g
Confectioners’ sugar	5¼ oz	150 g
Egg whites, room temperature	5¼ oz	150 g
Cake flour, sifted	5¼ oz	150 g
Orange food coloring	As needed	As needed

In the bowl of a mixer fitted with the paddle attachment, cream butter with the sugar until light and aerated, about 5 minutes. Gradually blend in the egg whites. Add the flour and mix on low speed until well combined. Blend in food coloring as needed. Refrigerate until needed in a covered container and use as desired

PHYLLO DOUGH DÉCOR

MAKES APPROXIMATELY 8 RECTANGLES (2 BY 3½ IN/5 BY 9 CM)

INGREDIENT	U.S.	METRIC
Phyllo dough	1 sheet	1 sheet
Clarified butter, melted	2 oz	60 g
Confectioners' sugar, sifted	As needed	As needed
Almond slices	30	30

1. Lay 1 sheet of phyllo dough out on a clean wooden surface. Using a pastry brush, brush lightly with the clarified butter. Dust lightly with sifted confectioners' sugar.
2. Fold the phyllo dough in half lengthwise. Brush the top of the dough with another coat of clarified butter.
3. Using a straightedge as a guide, cut the phyllo dough into rectangles 2 by 3½ in/5 by 9 cm each.
4. Garnish each rectangle with 3 almond slices overlapping in the center. Dust with sifted confectioners' sugar.
5. Place the rectangles in between two silicone baking mats on a sheet pan and bake at 375°F/191°C until golden brown, 5 minutes.
6. Let the dough cool still sandwiched. Store in an airtight container.

RUSTLE

MAKES 1 HALF SHEET PAN

INGREDIENT	U.S.	METRIC
Praline paste	8¾ oz	250 g
Milk chocolate, melted	2 oz	60 g
Pailleté feuilletine	4¼ oz	120 g
Butter, soft	1 oz	30 g
Hazelnuts, roughly chopped	¾ oz	20 g

Line a half sheet pan with a silicone baking mat. Mix the praline paste with the chocolate. Blend in the pailleté feuilletine and butter until just combined. Blend in the hazelnuts. Spread on the mat, wrap in plastic, and freeze.

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CUSTARDS, CREAMS, MOUSSES, AND SOUFFLÉS

When the pastry chef combines eggs, milk, and sugar and bakes them, the result may be a smooth and creamy crème brûlée or a silky crème caramel. When these same ingredients are stirred together over gentle heat, vanilla sauce, or crème anglaise, is the result. Starches or gelatin can be included to produce textures that range from thick but spoonable to a sliceable cream. Folding in meringue or whipped cream produces mousse, Bavarian cream, diplomat cream, chibouste, or a soufflé. Custards can also be frozen to make ice creams.

BAKED CUSTARDS

A SIMPLE BAKED CUSTARD calls for blending eggs, milk or cream, and sugar and baking until set. Savory custards eliminate the sugar.

1. Heat the milk or cream and some of the sugar, stirring until the sugar is completely dissolved. Milk or cream is the most common base for custard; heavy cream lends a richer flavor and mouth feel than milk. Mascarpone, cream cheese, or another soft fresh cheese may be substituted for part of the cream to yield a richer and firmer result. Less fat will yield a firmer custard.

2. Add the flavorings at this point and steep, if necessary, off the heat and covered, long enough for them to impart a rich, full flavor. Vanilla beans, coffee, tea, and spices are commonly used as flavorings in baked custards. Vanilla and coffee beans, whole or ground, as well as tea, may be left to steep in the mixture and then strained out once infused. Other flavorings such as extracts, liquor, ground spices may be added at this point.

3. Bring the mixture to a boil.

4. Blend the eggs and the remaining sugar to make a liaison. The proportion of eggs also may be varied, as may the choice of whole eggs, yolks only, or a combination. Use extra yolks along with whole eggs for a softer custard. Use only egg yolks for a richer, creamier mouthfeel. Use all whole eggs to give more structure to a custard that is to be unmolded.

5. Whisking constantly, temper the liaison by streaming in the hot milk. Be careful not to aerate the mixture by overwhisking. Slowly incorporating the milk into the liaison of egg and sugar is done to prevent the egg from curdling.

6. You can add the rest of the hot milk more rapidly without cooking the egg mixture.

7. Pour the mixture through a fine-mesh strainer. This step ensures that anything that would interfere with the texture is removed from the final custard mixture, including any bubbles that may form at the surface of the custard.

8. Fill the molds with the custard. The molds can be coated with a light film of softened butter if you intend to unmold the custard. This coating will help the custard to be freed without cracks or damage its integrity once it is later removed from the mold.

9. Bake the custard in a hot water bath. Using a hot water bath ensures even baking through gentle heat at a constant temperature. Hot water baths also prevent the formation of a crust on the surface of the custard, as well as any rapid expansion that would result in cracks on the custard's surface. You may also bake them in a convection oven at a low temperature, around 200°F.

10. To check the custard for doneness, shake the mold gently. When the ripples on the surface move back and forth, rather than in concentric rings, the custard is properly baked.

11. Allow the custards to cool completely and refrigerate to store.

Tempering the eggs by adding some of the hot milk.

CHEESECAKE

CHEESECAKES SHOULD COOL COMPLETELY in the pan at room temperature and then be wrapped tightly and refrigerated until the custard has completely set, typically overnight (about 8 hours). To unmold a cheesecake, remove the plastic wrap and run a small knife or metal spatula between the pan and the cake. Press the tool to the pan to ensure the item to be unmolded is not cut or damaged in any way. Warm the bottom of the pan gently over an open burner, place a cake round that has been tightly wrapped in plastic on top of the cake, invert, and gently tap to release. Remove the pan and invert the cake to set it right side up.

HOT WATER BATH

A HOT WATER BATH, or bain-marie, ensures gentle heat at a constant temperature, allowing for even baking or cooking. Select a pan with sides at least as high as the sides of the molds. Set the molds in the pan as they are filled, leaving about 1 in/3 cm around each mold so it will be surrounded by hot water. Set the pan securely on the oven deck or rack. Add enough very hot or boiling water to the pan to come to about two-thirds of the height of the molds. Be careful not to splash or pour any water into the custards. After the custards are properly baked and removed from the oven, they should also be removed from the hot water bath.

A hot water bath ensures gentle, even heat, a requirement for beautiful custard.

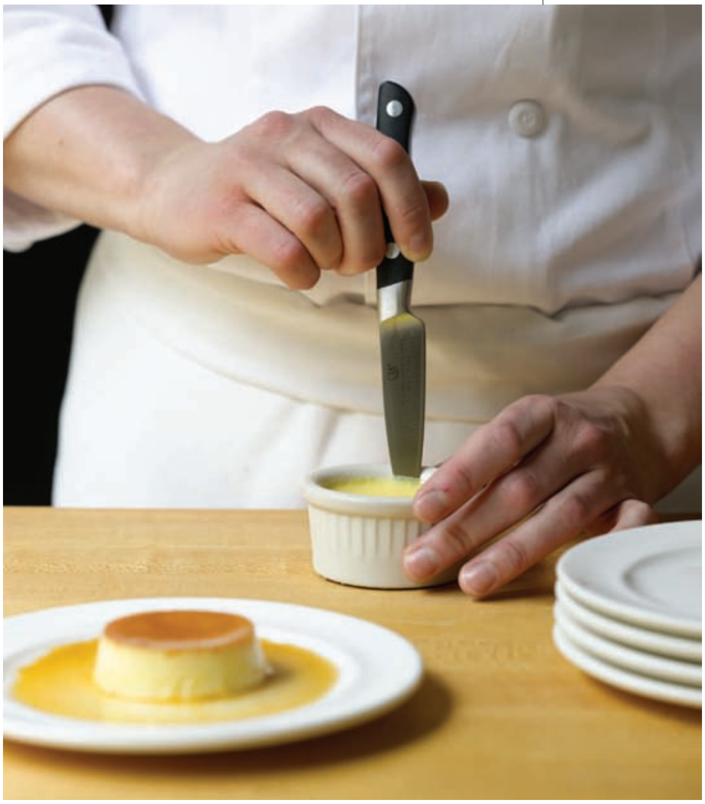
UNMOLDING CUSTARDS

Unmolded custards need to be thoroughly set. Crème caramel is perhaps the most common baked custard that is served unmolded; for this reason the formula must be balanced with enough eggs (whole or yolks) so that the custard will keep its shape when unmolded. The custard should be unmolded carefully so that the sides remain smooth. The custard will be smooth, glossy, and creamy white except near the top, where some of the caramel will have baked into the custard, imparting some of its rich flavor and golden color.

It is imperative that the crème caramel custard be left under refrigeration for a minimum of 24 hours in order for the caramel to liquefy and create the characteristic sauce for this dessert. In general, unmolded custards that are served the day after baking are a better product.

To unmold a custard that has been baked in a ramekin, run a knife or metal spatula around the rim, pressing against the side of the ramekin rather than the custard so as to avoid cutting or marring it. Invert onto a service plate and tap lightly to release. If the custard was baked in an individual aluminum cup, simply invert the mold onto a service plate and puncture the bottom to release the custard.

Run a knife around the edge of the mold and invert onto a plate to unmold.

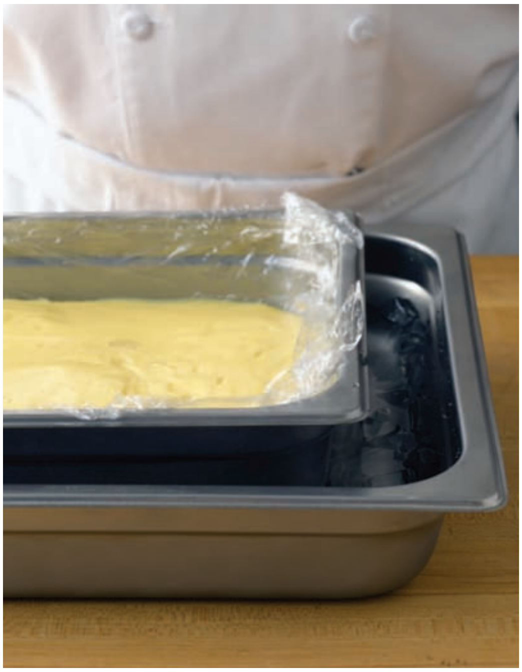


BOILED CUSTARDS

BOILED PUDDINGS AND CREAMS both contain milk (or a similar dairy base), sugar, and a starch; both are cooked by stirring over direct heat. They must be cooked, stirring constantly, until they come to a full boil, both so the starch is heated sufficiently to thicken the mixture and to remove any undesirable flavor and mouthfeel that uncooked starch would contribute. The starch in the mixture prevents the coagulation of the egg proteins, allowing these products to be cooked to higher temperatures than those made without a starch.

LEFT: *The custard must be stirred as it thickens to prevent it from scorching on the bottom of the pan.*

RIGHT: *Placing parchment paper or plastic wrap directly on the surface of the boiled custard prevents the formation of a skin as it cools.*

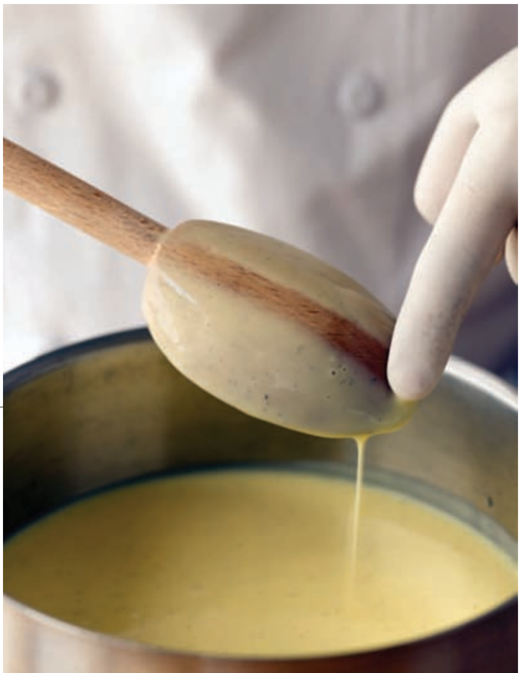


STIRRED CUSTARDS

STIRRED CUSTARDS, SUCH AS vanilla sauce or zabaglione, should never be boiled, as they are thickened with eggs rather than starch.

LEFT: *Test for nappé by dragging a finger through the vanilla sauce on the back of a wooden spoon.*

RIGHT: *Strain the prepared vanilla sauce through a fine-mesh sieve into a bain-marie in an ice bath to ensure it is completely smooth and cools quickly.*



GELATIN

GELATIN IS USED AS a stabilizer in many bakeshop preparations. In small amounts, gelatin adds body; in greater amounts, it can set a liquid so firmly that it can be sliced or cut into shapes. Using the precise amount of gelatin is crucial: If too little is used, it will not add enough stabilizing power, while if too much is used, the texture will become rubbery and unpalatable, and the flavor undesirable.

Gelatin is a protein composed of molecules that attract water; gelatin is hydrated, or bloomed, in order to allow these molecules to swell, absorbing moisture.

Since the product will begin to set immediately after the gelatin is added, always prepare all molds, service containers, and so forth before beginning preparation. Some gelatin-stabilized items are served in their molds; others are unmolded before service.

1. Gelatin must be rehydrated, or bloomed, and then melted before use. To bloom, soak it in the amount of liquid specified in the formula, which should be approximately 8 oz/230 g of a water-based liquid for every 1 oz/28 g of granulated gelatin. An alternate method commonly used for blooming sheet gelatin is to soak the sheets in enough cold water to completely submerge them. If this method is used, after blooming gently squeeze and wring the sheets to force the excess water out, so as not to add additional liquid to the formula, which would change the consistency and flavor of the finished product.

2. After it is bloomed (hydrated), the gelatin must be melted. To melt bloomed gelatin, place it in a pan or bowl over low heat or a hot water bath until liquefied. Then stir the melted gelatin into a warm or room-temperature base mixture. (If the base is cold, the gelatin may set up prematurely.) If the base is quite warm or hot (at least 105°F/41°C), however, you may opt to add the bloomed gelatin directly to the hot base, rather than melting it separately, and allow the base's heat to melt the gelatin. Be sure to stir gelatin added this way until it is completely blended into the base.

   As the bloomed gelatin is heated, the water-attracting molecules dissolve completely. Through cooling, the proteins in the gelatin mixture join together to form a three-dimensional web that holds the absorbed moisture. It is the development of this system in the gelatin that results in what we know as a *gel*; when added to other mixtures, or bases, the presence of this protein web is what results in a set, stabilized product.

STEAMED PUDDINGS

PLUM PUDDING (ALSO KNOWN as *Christmas pudding*) is probably the best-known steamed pudding. Steamed puddings are cake-like. Unlike other puddings in this chapter, they contain very little—if any—dairy product such as milk or cream. The traditional base for steamed puddings is a mixture of bread crumbs and suet. Some steamed puddings are based on cake crumbs and butter.

1. To steam a pudding, place a wire rack in a pot large enough to allow the mold to be surrounded by water.

2. Add enough water to the pot so that approximately half the mold will be immersed.

3. Bring the water to a boil and carefully place the mold in the pot, setting it securely on the wire rack. Molds for steamed puddings are typically ceramic or metal, and sometimes are referred to as *basins*. Pudding molds commonly have a center tube and fluted sides. Some have a lid that clamps in place; however, if a mold is lidless, use buttered parchment paper, plastic wrap, or foil to tightly seal the batter.

4. Cover the pot and bring the water to a gentle boil. Check the pot often and add more boiling water as necessary to ensure that the water level remains constant.

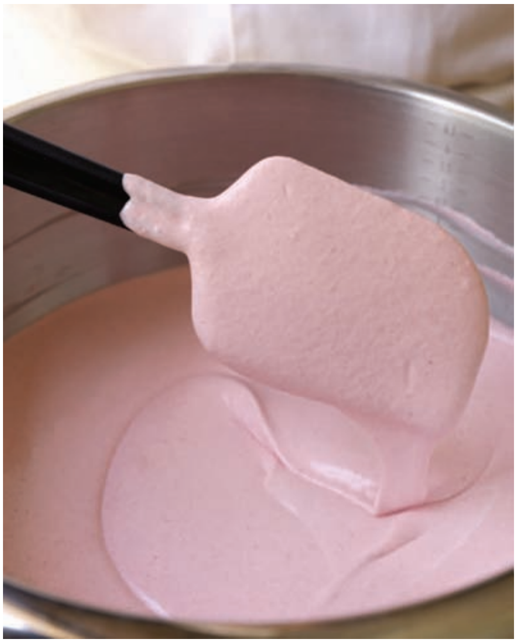
MOUSSE

THE NAME FOR THIS delicate dessert comes from a French word that translates literally as “frothy, foamy, or light.” To make a mousse, an aerator such as whipped cream or a meringue is folded into a base such as a fruit purée, vanilla sauce, cream or pudding, curd, sabayon, or pâte à bombe. The base should be light and smooth so the aerator can be incorporated easily. Stabilizers such as gelatin may be used in varying amounts, depending on the desired result. If a mousse is stabilized with gelatin, it will begin to set as it cools, so prepare all molds, serving containers, and so forth before beginning preparation.

Folding is the technique used to combine a foamy mixture, such as meringue, whipped cream, or beaten egg whites, into a base mixture. The base is usually denser or firmer than the foam and will inevitably collapse the foam somewhat. Proper folding ensures that the foam loses as little volume as possible.

TOP LEFT: *Gently fold the purée into the meringue.*

TOP RIGHT: *Gently fold in the whipped cream.*



BELOW LEFT: *The texture of the finished mousse*

BELOW RIGHT: *Piping the mousse into serving containers*

1. To make mousse safely, use pasteurized egg whites or a Swiss or Italian meringue.

2. Cool the base if necessary before adding the foam. Add the foam to the base, or the other way around, and if using more than one foam, add the most stable one first. For example, if you are adding both a meringue and whipped cream, add the meringue first and then the cream.

3. Working quickly, add a small amount of the foam to the base to lighten it. Some pastry chefs add the foams in thirds. Fold the foam in with a rubber spatula or other tool with a similar broad, flat surface. Using a circular motion, gently run the spatula over the mixture, down and across the bottom of the bowl, and back up to the top again. Rotate the bowl as you work to mix the foam in evenly. Continue to fold the base and foam together until you have an even color and consistency, with no visible pockets of meringue, whipped cream, or the like.

4. Immediately pipe or ladle into prepared pastries or molds. Refrigerate until completely set.

BAVARIAN CREAM

A BAVARIAN CREAM IS vanilla sauce, fruit puree, or a combination of the two stabilized with gelatin and lightened and aerated with an equal proportion (by weight) of whipped cream. Bavarian cream can be used for individual dessert preparations. It can be piped and used in cakes, tortes, and charlottes.

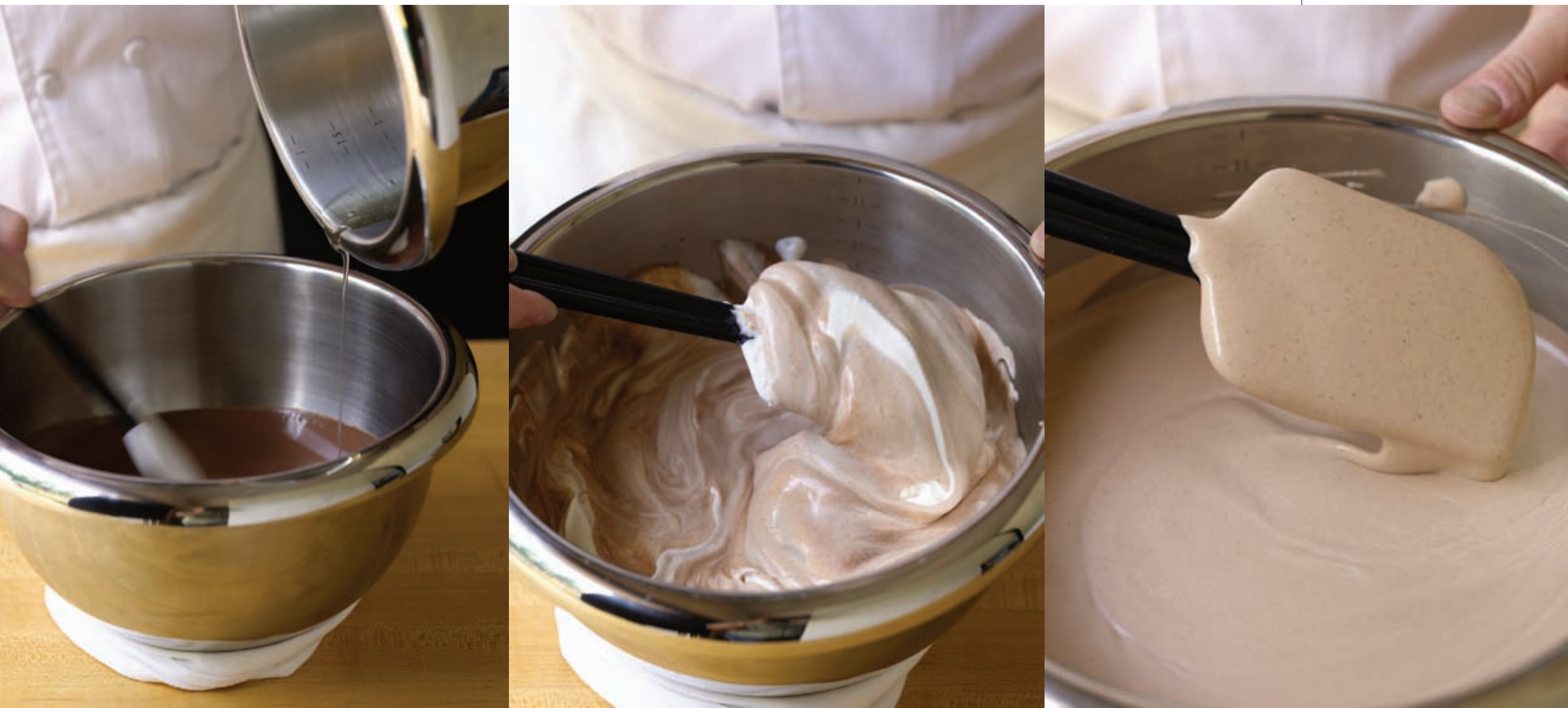
Since the Bavarian cream will begin to set immediately once it is finished, any molds, service containers, and so on should be prepared before beginning preparation.

1. Whip the cream to soft peaks and reserve under refrigeration so it is ready to be folded into the vanilla sauce mixture. Reserving the whipped cream under refrigeration prevents the fat in the cream from melting, thus keeping the cream full and aerated.

2. The vanilla sauce should be allowed to cool but should not be cold. Gelatin is likely to set up unevenly when added to a cold base; it is important that the vanilla sauce not be cold so that with the addition of the gelatin, it is able to set up evenly.

3. Blend any flavorings to be added, such as melted chocolate, fruit purée, or liqueur, into the vanilla sauce. The sauce should be intensely flavored, as the whipped cream will dilute its flavor. The addition of the whipped cream serves to lighten and aerate the gelatin-stabilized vanilla sauce.

4. The finished Bavarian can be molded or used as a filling or topping. Fold the cream in gently and quickly to maintain volume.



LEFT: *Add the melted bloomed gelatin to the stirred custard.*

MIDDLE: *Gently fold in the whipped cream.*

RIGHT: *The texture of the finished Bavarian cream*

HOT SOUFFLÉS

A HOT SOUFFLÉ IS MADE with a flavored base lightened by folding in whipped egg whites, much like a mousse, but rather than being stabilized and chilled, it is baked to further expand the air bubbles trapped in the egg whites and served directly from the oven. Pastry cream and fruit purées are the most common bases for dessert soufflés. If using a flavored pastry cream, it should have an intense flavor, as the meringue will lessen the flavor intensity of the base. Any pastry cream can serve as the base for a soufflé. However, specific formulations of pastry cream can increase the stability of the soufflé by the type and amount of starch used. The formula included here uses flour, but in some cases you may want to combine different starches to achieve specific desired results.

A properly sugared soufflé mold is coated with sugar over the rim of the mold.

1. Before preparing the soufflé mixture, preheat the oven and prepare the ramekins. Coat the inside and rim of each ramekin lightly but evenly with softened butter. Dust the molds with granulated or confectioners' sugar. The sugar coating will help the soufflé batter to rise as it bakes. Sugar attracts moisture, which in baking turns to steam, assisting in the rising of the batter. A properly sugared soufflé mold is coated with sugar inside as well as over the greased rim.

2. The base for a soufflé should be as light as possible before folding in the meringue. To lighten a pastry cream that has just been prepared, it should be beaten until cool. One that has been under refrigeration should be beaten until completely smooth.

3. Beat the meringue to soft peaks. It is important that the foam still have enough elasticity to expand as it bakes. Meringue beaten to stiff peaks will not expand as much during baking, and the soufflé will not rise as high. After the meringue has been folded into the base until evenly mixed, the batter should have a consistency similar to that of a soft-peak meringue.

4. Immediately fill the prepared ramekins. Wipe away any errant drops of batter.

5. Bake the soufflés until they rise about 1 in/3 cm (or more) above the rims of the molds and are lightly set. Baking the soufflés serves to further expand the air bubbles trapped in the egg whites, thus causing the product to rise. A properly raised soufflé should rise tall and straight above the rim of the mold.

6. Serve them immediately, with an appropriately flavored sauce or other garnish. Hot soufflés must be served immediately because shortly after removal from the oven, they will begin to deflate.

TOP TO BOTTOM: *Panna Cotta (page 423) with strawberries, Coffee Mousse (page 435), Crème Brûlée (page 402), chocolate Pot de Crème (page 416), Crème Caramel (page 415)*

CRÈME BRÛLÉE

MAKES 10 SERVINGS (5 FL OZ/150 ML EACH)

INGREDIENT	U.S.	METRIC
Heavy cream	2 lb	910 g
Granulated sugar	6 oz	170 g
Salt	Pinch	Pinch
Vanilla bean	1	1
Egg yolks, beaten	5½ oz	160 g
Brûlée Sugar Blend (page 1069)	5 oz	140 g
Confectioners' sugar, for dusting	4½ oz	130 g

1. Combine the cream, 3 oz/90 g of the granulated sugar, and the salt in a nonreactive saucepan and bring to a simmer over medium heat, stirring gently with a wooden spoon. Remove from the heat. Split the vanilla bean, scrape the seeds from the pod, add both the pod and seeds to the pan, cover, and steep for 15 minutes.

2. Bring the cream to a boil.

3. Meanwhile, blend the egg yolks with the remaining 3 oz/90 g granulated sugar. Temper by gradually adding about one-third of the hot cream, stirring constantly with a whisk. Add the remaining hot cream. Strain and ladle into ramekins, filling them three-quarters full.

4. Bake in a water bath at 325°F/163°C until just set, 20 to 25 minutes.

5. Remove the custards from the water bath and wipe the ramekins dry and allow to cool. Refrigerate until fully chilled.

6. To finish the crème brûlée, evenly coat each custard's surface with a thin layer (1⁄16 in/0.15 cm) of brûlée sugar. Use a propane torch to melt and caramelize the sugar. Lightly dust the surface with confectioners' sugar and serve.

CHEF'S NOTES

Vanilla extract can be substituted for the vanilla bean. Blend 1 tbsp/15 mL into the custard just before portioning into the ramekins.

Vanilla beans that are used to infuse flavor into preparations such as custards can be rinsed under cold water, dried, and stored for a later use, such as making Vanilla Sugar (page 1080).

VARIATIONS

CINNAMON CRÈME BRÛLÉE *Add 3 cinnamon sticks to the cream mixture in step 1. Strain after steeping and proceed as directed above.*

CHOCOLATE CRÈME BRÛLÉE *Stir the hot custard into 6 oz/170 g chopped bittersweet chocolate in step 3. Stir until smooth then proceed as directed above.*

COCONUT CRÈME BRÛLÉE *Add 2 oz/60 g toasted coconut to the cream mixture in step 1. Strain after steeping and proceed as directed above.*

COFFEE CRÈME BRÛLÉE *Add 1 oz/30 g coarsely ground dark roast coffee beans to the cream mixture in step 1. Strain after steeping and proceed as directed above.*

PUMPKIN CRÈME BRÛLÉE

MAKES 10 SERVINGS (5 FL OZ/150 MLEACH)

INGREDIENT	U.S.	METRIC
Heavy cream	1 lb 8 oz	680 g
Pumpkin purée	8 oz	230 g
Granulated sugar	6 oz	170 g
Salt	Pinch	Pinch
Vanilla bean	1	1
Egg yolks, beaten	5½ oz	160 g
Brûlée Sugar Blend (page 1069)	5 oz	140 g
Confectioners' sugar, for dusting	4½ oz	130 g

1. Combine the cream, pumpkin purée, 3 oz/90 g of the granulated sugar, and the salt in a nonreactive saucepan and bring to a simmer over medium heat, stirring gently with a wooden spoon. Remove from the heat. Split the vanilla bean, scrape the seeds from the pod, add both the pod and seeds to the pan, cover, and steep for 15 minutes.

2. Bring the cream to a boil.

3. Meanwhile, blend the egg yolks with the remaining 3 oz/90 g granulated sugar. Temper by gradually adding about one-third of the hot cream, stirring constantly with a whisk. Add the remaining hot cream. Strain and ladle into ramekins, filling them three-quarters full.

4. Bake in a water bath at 325°F/163°C until just set, 20 to 25 minutes.

5. Remove the custards from the water bath and wipe the ramekins dry. Refrigerate until fully chilled.

6. To finish the crème brûlée, evenly coat each custard's surface with a thin layer (1⁄16 in/0.15 cm) of brûlée sugar. Use a propane torch to melt and caramelize the sugar. Lightly dust the surface with confectioners' sugar and serve.

CHEESECAKE

MAKES 6 CHEESECAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Graham Cracker Crust (page 239)	1 lb 14 oz	850 g
Cream cheese	7 lb 8 oz	3.4 kg
Sugar	2 lb 4 oz	1.02 kg
Salt	1½ tsp	9 g
Eggs	1 lb 14 oz	850 g
Egg yolks	3 oz	90 g
Heavy cream	15 oz	430 g
Vanilla extract	1½ oz	40 g

The texture of a properly baked cheesecake.

1. Lightly butter the cake pans and line them with parchment circles.

2. Press 2½ oz/70 g of the crust mixture evenly into the bottom of each pan.

3. Combine the cream cheese, sugar, and salt and mix with the paddle attachment on medium speed, occasionally scraping down the bowl, until the mixture is completely smooth, about 3 minutes.

4. Whisk the eggs and egg yolks together. Add the eggs to the cream cheese mixture in four additions, mixing until fully incorporated after each addition and scraping down the bowl as needed.

5. Add the heavy cream and vanilla and mix until fully incorporated.

6. Scale 2 lb 8 oz/1.13 kg batter into each prepared pan. Gently tap the pans to release any air bubbles.

7. Bake in a water bath at 325°F/163°C until the centers of the cakes are set, about 1¼ hours.

8. Cool the cakes completely in the pans on racks. Wrap the cakes, in the pans, in plastic wrap and refrigerate overnight to fully set.

9. To unmold, apply the gentle heat of a low open flame to the bottom and sides of each cake pan. Run a knife around the side of the pan. Place a plastic wrap–covered cake circle on top of the cake, invert, and tap the bottom of the pan to release the cake if necessary. Remove the pan, peel off the paper from the bottom of the cake, and turn onto a cake circle or serving plate.

CHEF'S NOTE

Cheesecakes are often served plain as they come out of the oven, chilled and unmolded. However, toppings that reflect the cake's flavor profile can be added after it is removed from the pan. A chocolate or marble cheesecake can be glazed with ganache, a thin layer of curd can top a lemon cheesecake, or a pumpkin cheesecake could be lightly dusted with cinnamon or confectioners' sugar. The most common topping for a cheesecake is fresh seasonal fruit.

VARIATIONS

CHOCOLATE CHEESECAKE *To 2 lb 8 oz/1.13 kg batter for each 8-in/20-cm cake, add 2½ oz/70 g sifted cocoa powder and blend well. Proceed as directed from step 6.*

LEMON CHEESECAKE *To 2 lb 8 oz/1.13 kg batter for each 8-in/20-cm cake, add 2 oz/60 g lemon juice and the grated zest of 1 lemon and blend well. Proceed as directed from step 6.*

MARBLE CHEESECAKE *To 8 oz/230 g batter for each 8-in/20-cm cake, add 2 oz/60 g melted bittersweet chocolate. Pour the chocolate batter into 2 lb/910 g of the plain batter and gently swirl three or four times with the end of a wooden spoon. Do not overmix. Pour the marbleized batter into the prepared pan and proceed as directed from step 6.*

PUMPKIN CHEESECAKE *To 1 lb 7 oz/650 g batter for each 8-in/20-cm cake, add 10 oz/280 g pumpkin purée and blend well. Proceed as directed from step 6.*

WHITE CHOCOLATE CHEESECAKE *To 2 lb 8 oz/1.13 kg batter for each 8-in/20-cm cake, add 5 oz/140 g melted white chocolate and blend well. Proceed as directed from step 6.*

WALNUT CHEESECAKE

MAKES 6 CHEESECAKES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Graham Cracker Crust (page 239)	1 lb 14 oz	850 g
Confectioners' sugar, sifted	10½ oz	300 g
Cream cheese	6 lb 10½ oz	3.02 kg
Maple syrup	1 lb 6 oz	620 g
Eggs	1 lb 6 oz	620 g
Sour cream	1 lb	450 g
Walnut Praline Paste (page 1069)	3 lb 5½ oz	1.52 kg
Vanilla extract	1 oz	30 g
White chocolate, melted and cooled	1 lb 6 oz	620 g
Walnut Dragée (see page 935), roughly chopped	9 oz	260 g

1. Lightly butter the cake pans and line them with parchment circles.

2. Press 2½ oz/70 g of the crust mixture evenly into the bottom of each pan.

3. Cream the sugar, cream cheese, and maple syrup with the paddle attachment on medium speed, scraping down the bowl periodically, until smooth, fluffy, and lighter in color, about 5 minutes.

4. Gradually add the eggs and sour cream, scraping down the bowl periodically. Add the walnut praline paste and vanilla and blend thoroughly.

5. Transfer 2 lb/910 g of the cheesecake batter to another bowl and blend in the white chocolate. Blend the white chocolate mixture into the remaining cheesecake batter.

6. Scale 2 lb 8 oz/1.13 kg batter into each prepared pan. Sprinkle 1½ oz/40 g chopped dragée walnuts over each cheesecake. Gently tap the pans to release any air bubbles.

7. Bake in a water bath at 325°F/163°C until the centers of the cakes are set, about 1¼ hours.

8. Cool the cakes completely in the pans on racks. Wrap the cakes in the pans in plastic wrap and refrigerate overnight to fully set.

9. To unmold, apply the gentle heat of a low open flame to the bottom and sides of each cake pan. Place a plastic wrap–covered cake circle on top of the cake, invert, and tap the bottom of the pan to release the cake if necessary. Remove the pan, peel off the paper from the bottom of the cake, and turn onto a cake circle or serving plate.

MASCARPONE CHEESECAKE

MAKES 4 CHEESECAKES (10 IN/25 CM EACH)

INGREDIENT	U.S.	METRIC
Graham Cracker Crust (page 239)	15 oz	430 g
Cream cheese	3 lb	1.36 kg
Mascarpone	2 lb	910 g
Sugar	1 lb 8 oz	680 g
Eggs	1 lb 4 oz	570 g
Sour cream	1 lb	450 g
Egg yolks	10 oz	280 g
Lemon extract	1 tbsp	15 mL
Vanilla extract	1 tbsp	15 mL

1. Lightly butter the cake pans and line them with parchment circles.

2. Press 2½ oz/70 g of the crust mixture evenly into the bottom of each pan.

3. Cream the cream cheese, mascarpone, and sugar with the paddle attachment on medium speed, scraping down the bowl periodically, until smooth, fluffy, and lighter in color, about 5 minutes.

4. Gradually add the eggs, sour cream, and egg yolks, scraping down the bowl periodically. Add the lemon and vanilla extracts and blend thoroughly, about 5 minutes more.

5. Scale 2 lb 8 oz/1.13 kg batter into each prepared pan. Gently tap the pans to release any air bubbles.

6. Bake in a water bath in a 325°F/163°C oven until the centers of the cakes are set, about 1¼ hours.

7. Cool the cakes completely in the pans on racks. Wrap the cakes in the pans in plastic wrap and refrigerate overnight to fully set.

8. To unmold, apply the gentle heat of a low open flame to the bottom and sides of each cake pan. Place a plastic wrap–covered cake circle on top of the cake, invert, and tap the bottom of the pan to release the cake if necessary. Remove the pan, peel off the paper from the bottom of the cake, and turn onto a cake circle or serving plate.

GOAT CHEESE CHEESECAKE

MAKES 2 LB 9 OZ/1.16 KG BATTER, 8 CAKES

INGREDIENT	U.S.	METRIC
Fresh goat cheese (preferably Montchevre)	12½ oz	360 g
Cream cheese	7 oz	190 g
Sugar	3 oz	90 g
Salt	2 pinches	2 pinches
Crème fraîche	10 oz	280 g
Eggs	3 oz	90 g
Orange juice	2 oz	60 g
Cornstarch	1 oz	30 g

1. Before beginning, make sure that all of the ingredients are at room temperature.

2. Place the goat cheese, cream cheese, sugar, and salt in the bowl of an electric mixer fitted with a paddle attachment and mix on low speed just to incorporate.

3. Add the crème fraîche in two additions and continue to mix on low speed until smooth.

4. Add the eggs gradually while mixing on low speed, scraping down the side of the bowl as necessary, until smooth.

5. Make a slurry with orange juice and cornstarch and add to the cheese mixture. Blend well to incorporate.

6. Prepare 8 individual cone-shaped silicone molds by spraying thoroughly with pan spray and place in a full-size hotel pan.

7. Fill each of the molds to the top, leaving only ⅛ in/0.3 cm headroom. Fill the hotel pan with warm water to over half the height of the molds. It is important to have the right temperature with the ingredients as well as the water bath.

8. Bake in a 280°F/138°C convection oven in the water bath with the vent closed, fan speed #2, until set, 21 minutes.

9. Allow to cool to room temperature without removing from the water bath. Once the cakes reach room temperature, remove them from the water and transfer them to a half sheet pan. Blast freeze for easy release.

YOGURT CREMEUX

MAKES 2 LB 7 OZ/1.1 KG

INGREDIENT	U.S.	METRIC
Heavy cream	11 oz	310 g
White chocolate, finely chopped	15 oz	430 g
Greek yogurt, room temperature	13 oz	370 g

1. Heat the heavy cream and melt chocolate in a bowl over a pan of barely simmering water.
2. Combine the heavy cream and melted chocolate to make a ganache. Fold in yogurt. Chill to set.

VANILLA AND ROSEMARY CREMEUX

MAKES 2 CAKE PANS (6 IN/15 CM EACH)

INGREDIENT	U.S.	METRIC
Gelatin sheets	¼ oz	10 g
Milk	8 oz	230 g
Heavy cream	8 oz	230 g
Sugar	3½ oz	100 g
Salt	Pinch	Pinch
Vanilla bean	1	1
Rosemary, finely chopped	½ tsp	1 g
Egg yolks	6 oz	170 g

1. Bloom the gelatin in cold water. Drain, squeeze out excess water, and set aside.
2. In a saucepan, combine the milk, cream, 2½ oz/70 g of the sugar, and the salt and bring to a simmer over medium heat, stirring gently with a wooden spoon. Remove from the heat. Split the vanilla bean, scrape the seeds from the pod, add both the pod and seeds and the rosemary to the pan, cover, and steep for 15 minutes.
3. Bring the cream to a boil.
4. Meanwhile, blend the egg yolks with the remaining 1 oz/30 g sugar. Temper by gradually adding about one-third of the hot milk and cream mixture, stirring constantly with a whisk. Add the remaining hot milk and cream.
5. With the pan removed from the heat, add the bloomed gelatin. Strain and cool in an ice water bath until it just starts to thicken.
6. Pour into the cake pans or other desired molds lined with plastic wrap and freeze.

BANANA CREMEUX

MAKES 10 SERVINGS

INGREDIENT	U.S.	METRIC
Bananas, fully ripe, unpeeled	6 oz	170 g
Gelatin sheets	1	1
Heavy cream	4 oz	110 g
Milk	1 oz	30 g
Vanilla bean, split and scraped	½	½
Sugar	1¾ oz	50 g
Egg yolks	3 oz	85 g

1. Place the bananas in a half hotel pan and roast the bananas in their skins in a 350°F/177°C oven until they crack, the skin turns black, and they begin to seep, about 15 minutes.

2. Let the bananas cool to room temperature.

3. Bloom the gelatin in cold water. Drain, squeeze out excess water, and set aside.

4. Bring 3 oz/90 g of the cream, the milk, the vanilla bean pod and seeds, and half of the sugar to a boil in a medium saucepot over medium heat.

5. Meanwhile, combine the yolks, the remaining cream, and the remaining sugar in a bowl and mix together with a whisk until well blended.

6. Temper the yolk mixture by gradually adding about one-third of the hot cream mixture, whisking constantly. Return the tempered egg mixture to the remaining hot cream in the saucepot and cook, stirring constantly, until the mixture thickens enough to coat the back of a spoon (180°F/82°C).

7. Remove from the heat and let the mixture cool slightly.

8. Peel the bananas. Remove the vanilla bean from the custard. Combine the cream mixture with the roasted bananas in a blender and blend for 30 seconds, until smooth.

9. Pour the mixture into a bowl and temper 3 oz/90 g of the warm blended mixture with the bloomed gelatin. Return the melted gelatin mixture to the rest of the mixture. Strain through a fine-mesh sieve.

10. Using a confectionery funnel, evenly fill flexible disk molds 1½ in/4 cm in diameter by ½ in/1 cm deep three-quarters full. Wrap with plastic wrap and freeze the molds for at least 12 hours. Keep frozen until needed and carefully unmold for assembly while still frozen.

BASIL CREMEUX

MAKES 1 LB 11½ OZ/780 G

INGREDIENT	U.S.	METRIC
Gelatin sheets	3	3
Milk	8 oz	230 g
Salt	Pinch	Pinch
Sugar	3½ oz	100 g
Vanilla bean	1	1
Egg yolks	6	6
Basil purée (see Chef's Note)	As needed	As needed

1. Bloom the gelatin in cold water. Drain, squeeze out excess water, and set aside.

2. Combine the milk and cream with the salt and 2 oz/60 g of the sugar in a nonreactive saucepan and bring to a boil, stirring to dissolve the sugar. Split the vanilla bean, scrape the seeds from the pod, add the pod and seeds to the pan, cover, and steep for 15 minutes. Strain before use.

3. Meanwhile, blend the egg yolks with the remaining 1½ oz/40 g sugar, using a whisk.

4. Temper the egg yolks by gradually adding one-third of the hot milk, whisking constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and continue cooking, stirring, until the mixture thickens enough to coat the back of a spoon.

5. Add the basil purée to the vanilla sauce and adjust to taste. Blend, stirring gently. Strain.

6. Add the bloomed gelatin and, stirring constantly, cool over an ice water bath to 70°F/21°C.

7. Pour into molds as desired and freeze.

CHEF'S NOTE

To prepare the basil purée, blanch basil leaves in boiling water for 5 seconds. Shock in cold water. Purée with Simple Syrup (page 1079) to a thick, smooth consistency.

MACADAMIA CREMEUX

MAKES 3 LB 12 OZ/1.7 KG

INGREDIENT	U.S.	METRIC
Gelatin sheets	3½	3½
Heavy cream	2 lb	910 g
Salt	Pinch	Pinch
Sugar	5 oz	140 g
Vanilla bean	1	1
Egg yolks	12	12
Macadamia nut paste (see Chef's Note)	8 oz	230 g

1. Bloom the gelatin in cold water. Drain and set aside.

2. Combine the cream with the salt and 3 oz/90 g of the sugar in a nonreactive saucepan and bring to a boil, stirring to dissolve the sugar. Split the vanilla bean, scrape the seeds from the pod, add the pod and seeds to the pan, cover, and steep for 15 minutes. Remove the vanilla bean pod.

3. Meanwhile, blend the egg yolks with the remaining 2 oz/60 g sugar, using a whisk.

4. Temper the egg yolks by gradually adding one-third of the hot cream, whipping constantly. Return the tempered egg mixture to the remaining hot cream in the saucepan and continue cooking, stirring, until the mixture thickens enough to coat the back of a spoon.

5. Add the macadamia nut paste to the vanilla sauce. Blend using an immersion blender.

6. Off the heat, add the bloomed gelatin and, stirring constantly, cool over an ice water bath to 70°F/21°C.

7. Pour into molds as desired and freeze.

CHEF'S NOTE

To make macadamia nut paste, toast nuts in a 300°F/149°C oven. Place in the food processor and process until a slightly chunky paste is obtained.

VANILLA CUMIN CREMEUX

YIELD: 1 LB 2 OZ/520 G

INGREDIENT	U.S.	METRIC
Gelatin sheets	2¼	2¼
Milk	6 oz	170 g
Heavy cream	6 oz	170 g
Salt	Pinch	Pinch
Egg yolks	2½ oz	70 g
Sugar	2½ oz	70 g
Vanilla paste	¼ oz	7 g
Ground toasted cumin	1 tsp	2 g

1. Bloom the gelatin.
2. Prepare a crème anglaise with the milk, cream, salt, egg yolks, and sugar (see Vanilla Sauce, page 470) and cook to nappé (180°F/82°C).
3. Strain over an ice bath and cool to room temperature.
4. Place the anglaise into a blender and add the vanilla and cumin. Blend to incorporate.
5. Melt the gelatin and incorporate into a quarter of the crème anglaise mixture. Temper the remaining anglaise and incorporate well. Use immediately.

AGAR MANGO GELÉE

YIELD: 2 LB 13½ OZ/1.29 KG

INGREDIENT	U.S.	METRIC
Agar-agar, powdered	1 tsp	4 g
Sugar	6¼ oz	180 g
Mango purée	7¼ oz	210 g
Glucose syrup	7 oz	200 g
Cold water	6¼ oz	180 g
Chopped mango	1 lb 2¼ oz	520 g

1. Place the agar and sugar in a dry bowl and whisk until well blended.
2. Combine 5¾ oz/160 g of the mango purée, the glucose syrup, and water in a saucepan over medium heat. Add the agar mixture and heat to 223°F/106°C.
3. Add the remaining purée and chopped mango. Once the mixture reaches room temperature, pour into desired mold.

CRÈME CARAMEL

MAKES 6 SERVINGS (4 OZ/110G EACH)

INGREDIENT	U.S.	METRIC
CARAMEL		
Sugar	5 oz	140 g
CUSTARD		
Milk	7 oz	200 g
Heavy cream	7 oz	200 g
Sugar	1¾ oz	50 g
Vanilla bean (optional)	1	1
Eggs	10 oz	280 g

1. To prepare the caramel, add a small amount of the sugar to a medium-hot pan set over medium heat and allow it to melt, then add the remaining sugar in small increments, allowing each addition to melt fully before adding the next. Continue this process until all the sugar has been added to the pan and cook to the desired color. Carefully divide the liquid among the bottoms of the ramekins.

2. To prepare the custard, warm the milk and cream and half of the sugar and remove from the heat. If using a vanilla bean, split the bean, scrape the seeds from the pod, add the pod and seeds to the pan, cover, and steep for 15 minutes.

3. Combine the eggs and the remaining sugar.

4. Temper by gradually adding about one-third of the hot milk and cream, stirring constantly with a whisk. Add the remaining hot milk and cream. Do not return to the heat.

5. Strain, remove bubbles, and divide the custard among the prepared ramekins.

6. Bake in a water bath at 300°F/149°C until just set, 20 to 25 minutes.

7. Remove the custards from the water bath and wipe the ramekins dry. Refrigerate covered until fully chilled.

8. Carefully run a paring knife around the edge of the custard.

9. Place an inverted serving plate on top of the ramekin and flip the ramekin over to unmold the custard. Gently remove the ramekin and serve.

VARIATION

CRÈME CARAMEL WITH GRAND MARNIER *Add 1 oz/30 g of Grand Marnier in step 4 after adding the remaining hot milk and cream.*

POTS DE CRÈME

MAKES 12 SERVINGS (4 FL OZ/120 ML EACH)

INGREDIENT	U.S.	METRIC
CARAMEL		
Sugar	5 oz	140 g
CUSTARD		
Milk, warm	1 lb	450 g
Heavy cream, warm	1 lb	450 g
Eggs	6 oz	170 g
Egg yolks	2 oz	60 g
Sugar	3 oz	90 g
Semisweet chocolate, melted	4 oz	110 g
Vanilla extract	1 tbsp	15 mL

1. To prepare the caramel, add a small amount of the sugar to a medium-hot saucepan set over medium heat and allow it to melt, then add the remaining sugar in small increments, allowing each addition to melt fully before adding the next. Continue this process until all the sugar has been added to the pan, and cook to the desired color.

2. To make the custard, carefully add the milk and cream to the caramel over the heat, stirring to incorporate, and bring to a boil.

3. Meanwhile, blend the eggs and egg yolks with the sugar to make the liaison. Temper by adding about one-third of the hot milk and cream, whisking constantly. Add the remaining hot milk and cream. Gradually add about one-third of the hot custard to the chocolate, whisking constantly, then add the remaining hot custard and the vanilla. Strain, remove bubbles, and ladle into ramekins, filling them three-quarters full.

4. Bake in a water bath at 325°F/163°C until fully set, about 30 minutes.

5. Remove the custards from the water bath and wipe the ramekins dry. Refrigerate until fully chilled.

6. Garnish and serve the pots de crème as desired.

PASTRY CREAM

MAKES 3 LB/1.36 KG

INGREDIENT	U.S.	METRIC
Milk	2 lb	910 g
Sugar	8 oz	230 g
Butter	3 oz	90 g
Salt	Pinch	Pinch
Cornstarch	3 oz	90 g
Eggs	12 oz	340 g
Vanilla extract or vanilla beans, seeds only	1 tbsp extract or 1 bean	15 mL extract or 1 bean

1. Combine 1 lb 8 oz/680 g of the milk, 4 oz/110 g of the sugar, the butter, and salt in a nonreactive saucepan and bring to a boil over medium heat, stirring to dissolve the sugar.

2. Meanwhile, combine the cornstarch with the remaining 4 oz/110 g sugar. Stirring with a whisk, add the remaining 8 oz/230 g milk. Add the eggs and vanilla, stirring with the whisk until the mixture is completely smooth.

3. Temper the egg mixture by adding about one-third of the hot milk, stirring constantly with the whisk. Return the mixture to the remaining hot milk in the saucepan. Continue cooking, stirring vigorously with the whisk, until the pastry cream comes to a boil and the whisk leaves a trail in it.

4. Pour the pastry cream into a large, shallow nonreactive pan or plastic-lined sheet pan. Cover with plastic wrap placed directly on the surface of the cream, and cool over an ice water bath.

5. Store the pastry cream, covered, under refrigeration for up to 3 days.

VARIATIONS

HONEY PASTRY CREAM *Omit the 4 oz/110 g of sugar added with the milk in step 1. Blend 6 oz/170 g honey and 1 tsp/3 g grated orange zest with 1 lb/450 g of the pastry cream immediately after it is finished cooking.*

LIQUEUR-FLAVORED PASTRY CREAM *Add 4 oz/110 g liqueur to 1 lb/450 g of the pastry cream immediately after it is finished cooking.*

COFFEE PASTRY CREAM *Add 2 oz/55 g coffee extract to the pastry cream immediately after it is finished cooking.*

PISTACHIO CREAM

MAKES 3 LB 4½ OZ/1.49 KG

INGREDIENT	U.S.	METRIC
Gelatin, granulated	½ oz	14 g
Whole milk	1 lb 3 oz	540 g
Pistachio paste	4 oz	110 g
Sugar	3 oz	90 g
Egg yolks	6 oz	170 g
Kirsch	1 oz	30 g
Whipped cream, medium peaks	1 lb 3 oz	540 g

1. Bloom the gelatin in 4 oz/110 g cold water.
2. Combine the milk with the pistachio paste and 1½ oz/40 g of the sugar in a nonreactive saucepan and bring to a boil, stirring to dissolve the sugar.
3. Meanwhile, blend the egg yolks with the remaining 1½ oz/40 g sugar, using a whisk.
4. Temper the egg yolks by gradually adding one-third of the hot milk, whipping constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and continue cooking until the mixture thickens enough to coat the back of a spoon.
5. Remove the sauce from the heat and add the bloomed gelatin. Stir to dissolve the gelatin.
6. Strain the sauce through a fine-mesh sieve into a bain-marie and chill in an ice water bath to 72°F/22°C. Once cooled, stir in the kirsch and whipped cream.
7. Store the pistachio cream, covered, under refrigeration.

VANILLA PUDDING

MAKES 2 LB 10 OZ/1.19 KG, 10 SERVINGS (4 OZ/110 G EACH)

INGREDIENT	U.S.	METRIC
Milk	2 lb	910 g
Sugar	6½ oz	180 g
Cornstarch	1¾ oz	50 g
Egg yolks	2½ oz	70 g
Butter	½ oz	14 g
Vanilla extract	1 tbsp	15 mL

1. Combine 1 lb 8 oz/680 g of the milk, 3½ oz/100 g of the sugar, and the salt in a nonreactive saucepan and bring to a boil, stirring gently with a wooden spoon.

2. Meanwhile, combine the cornstarch with the remaining 3 oz/90 g sugar. Stirring with a whisk, add the remaining 8 oz/230 g milk. Add the egg yolks, stirring with the whisk until the mixture is completely smooth.

3. Temper the egg mixture by adding about one-third of the hot milk, stirring constantly with the whisk. Return the tempered egg mixture to the remaining hot milk in the saucepan. Continue cooking, stirring constantly with the whisk, until the pudding comes to a boil. Remove from the heat and stir in the butter and vanilla extract.

4. Pour into serving dishes, or use as desired. Cover and refrigerate until fully chilled.

VARIATION

CHOCOLATE PUDDING *Melt 5 oz/140 g bittersweet chocolate with the butter over a pan of barely simmering water; set aside. In step 3, after blending in the vanilla, gradually incorporate one-third of the hot pudding into the chocolate mixture, stirring constantly with the whip. Add the tempered chocolate mixture to the remaining pudding and blend to fully combine. Proceed as directed above.*

RICE PUDDING

MAKES 2 LB 10 OZ/1.19 KG, 10 SERVINGS (4 OZ/110 G EACH)

INGREDIENT	U.S.	METRIC
Milk	2 lb	910 g
Sugar	4 oz	110 g
Cinnamon stick	1	1
Orange slice	1	1
Long-grain white rice, rinsed	3 oz	90 g
Cornstarch	1 tbsp	6 g
Eggs	3 oz	90 g
Vanilla extract	1 tsp	5 mL

1. Combine the milk, 2 oz/60 g of the sugar, the cinnamon stick, and orange slice in a nonreactive saucepan and bring to a boil. Add the rice and simmer over low heat until tender, about 30 minutes.

2. Just as the rice is finished cooking, combine the cornstarch with the remaining 2 oz/60 g sugar. Add the eggs, stirring with a whisk until the mixture is completely smooth.

3. Remove the orange slice and cinnamon stick from the rice. Temper the egg mixture by adding about one-third of the hot milk-rice mixture, stirring constantly with the whisk. Return the tempered egg mixture to the remaining hot milk-rice mixture in the saucepan. Continue cooking, stirring constantly with the whisk, until the pudding comes to a boil. Remove from the heat and blend in the vanilla extract.

4. Pour into serving dishes, or use as desired. Cover and refrigerate until fully chilled.

BREAD AND BUTTER PUDDING

MAKES 10 SERVINGS (6 OZ/170 G EACH)

INGREDIENT	U.S.	METRIC
Dark raisins	3 oz	90 g
Rum	4 oz	110 g
Enriched bread	9 oz	260 g
Butter, melted	3 oz	90 g
Milk	2 lb	910 g
Sugar	6 oz	170 g
Eggs, beaten	12 oz	340 g
Egg yolks, beaten	2¼ oz	60 g
Vanilla extract	½ tsp	2.5 mL
Ground cinnamon	½ tsp	1 g
Salt	½ tsp	3 g
Butter, soft, for brushing	As needed	As needed

Pour the mixed custard over the cubed bread and other filling ingredients, just to cover.

1. Place the raisins in a bowl and add the rum. Set aside to plump for 20 minutes, then drain.

2. Cut the bread into ½-in/1-cm cubes. Place on a sheet pan and drizzle with the melted butter. Toast in a 350°F/177°C oven, stirring once or twice, until golden brown.

3. Combine the milk and 3 oz/90 g of the sugar in a nonreactive saucepan and bring to a boil.

4. Meanwhile, blend the eggs, egg yolks, vanilla, and the remaining 3 oz/90 g sugar to make the liaison. Temper by gradually adding about one-third of the hot milk, whisking constantly. Add the remaining hot milk and strain the custard into a bowl.

5. Add the toasted bread, cinnamon, salt, and the drained raisins to the custard. Soak over an ice water bath for at least 1 hour to allow the bread to absorb the custard. Lightly brush 8 ramekins with softened butter.

6. Ladle the mixture into the prepared ramekins, filling them three-quarters full. Bake in a water bath at 350°F/177°C until just set, 45 to 50 minutes.

7. Remove the puddings from the water bath and wipe the ramekins dry. Refrigerate until fully chilled.

CHEF'S NOTE

The pudding can also be baked in a large hotel pan and portioned for service.

VARIATION

CHOCOLATE BREAD PUDDING *Omit the raisins and rum. Melt 6 oz/170 g bittersweet chocolate and blend into the hot custard before straining. Proceed as directed above.*

PANNA COTTA

MAKES 18 SERVINGS (4 OZ/110 G EACH)

INGREDIENT	U.S.	METRIC
Gelatin sheets	7	7
Water	4 oz	110 g
Heavy cream	2 lb	910 g
Sugar	12 oz	340 g
Salt	Pinch	Pinch
Buttermilk	1 lb 14 oz	850 g

1. Bloom the gelatin in the water, gently squeeze to remove the excess water, and melt.

2. Combine the cream, sugar, and salt in a nonreactive saucepan and heat, stirring, over medium heat to dissolve the sugar; make sure the mixture does not simmer. Remove from the heat.

3. Add gelatin to the cream mixture, blending well. Let the mixture cool to 100°F/38°C. Stir in the buttermilk.

4. Pour into ramekins. Cover tightly and refrigerate for several hours or until set.

VARIATION

CHAI PANNA COTTA *Add 1 tsp/10 g chai tea to warm cream mixture, cover, and allow to steep for 10 to 15 minutes. Strain the cream before adding the gelatin. Proceed as directed above.*

CINNAMON PANNA COTTA *Add 3 cinnamon sticks to the warm cream mixture, cover, and allow to steep for 10 to 15 minutes. Remove the cinnamon sticks and reheat the cream before adding the gelatin. Proceed as directed above.*

LEMON PANNA COTTA *Add 1 tsp/3 g finely grated lemon zest to the cream mixture in step 1. Proceed as directed above.*

TANGERINE PANNA COTTA

YIELD: 2 LB 10 OZ/1.19 KG (1 QUARTER SHEET PAN)

INGREDIENT	U.S.	METRIC
Gelatin sheets	9	9
Milk	7¾ oz	220 g
Heavy cream	7¾ oz	220 g
Sugar	6¼ oz	180 g
Tangerine purée, room temperature	1 lb 4 oz	570 g

1. Bloom the gelatin in ice cold water for 6 minutes, gently squeeze to remove excess moisture.
2. Bring the milk, cream, and sugar to a simmer and stir to dissolve the sugar.
3. Add the bloomed gelatin and stir until dissolved. Bring the mixture to 110°F/43°C.
4. Add the tangerine purée to the milk mixture.
5. Pour into a quarter sheet pan lined with acetate. Allow to set before portioning for use.

FRUIT CURD

MAKES 2 LB 2 OZ/960 G

INGREDIENT	U.S.	METRIC
Gelatin sheets	3	3
Water	4 oz	110 g
Citrus juice or fruit purée	8 oz	230 g
Sugar	10 oz	280 g
Eggs	8 oz	230 g
Butter, cubed	8 oz	230 g

1. Bloom the gelatin in the water. Squeeze out excess water and set aside.
2. Whisk together the juice, sugar, and eggs. Add the butter and place the mixture in a bowl over barely simmering water.
3. Cook the mixture, stirring it every 3 to 5 minutes, until it is thickened and approximately 165°F/74°C. Remove the pot from the heat and blend in the gelatin. Strain the mixture through a fine-mesh strainer.
4. Pour the curd into a large, shallow nonreactive pan or plastic-lined sheet pan. Cover with plastic wrap placed directly on the surface of the curd and cool over an ice water bath.
5. Store the curd, covered, under refrigeration.

LEMON CURD

MAKES 4 LB 12 OZ/2.15 KG

INGREDIENT	U.S.	METRIC
Butter, cubed	1 lb 5 oz	600 g
Sugar	1 lb 2 oz	510 g
Lemon juice	1 lb 2 oz	510 g
Lemon zest, grated	1¼ oz	40 g
Egg yolks	1 lb 2 oz	510 g

1. Combine 10½ oz/300 g of the butter, 9 oz/260 g of the sugar, and the lemon juice and zest and bring to a boil over medium heat, stirring gently to dissolve the sugar.

2. Meanwhile, blend the egg yolks with the remaining 9 oz/260 g sugar. Temper by gradually adding about one-third of the lemon juice mixture, stirring constantly with a whisk. Return the tempered egg mixture to the saucepan. Continue cooking, stirring constantly with the whisk, until the mixture comes to a boil.

3. Stir in the remaining butter.

4. Strain the curd into a large shallow container or bowl. Cover with plastic wrap placed directly on the surface of the curd. Cool over an ice water bath.

5. Store the curd, covered, under refrigeration.

VARIATION

GRAPEFRUIT CURD *Replace the lemon juice with grapefruit juice and the lemon zest with grapefruit zest.*

LIME CURD *Replace the lemon juice with lime juice and the lemon zest with lime zest.*

ORANGE CURD *Replace the lemon juice with orange juice and the lemon zest with orange zest, and reduce the sugar by 4 oz/110 g.*

BERGAMOT ORANGE CURD SPHERES

MAKES 3 LB 7¼ OZ/1.57 KG

INGREDIENT	U.S.	METRIC
Sugar	7 oz	200 g
Bergamot orange juice (freshly squeezed, if possible)	6¾ oz	190 g
Lemon juice	2¾ oz	80 g
Eggs	9½ oz	270 g
Butter, cubed, soft	1 lb 12¾ oz	820 g
Vanilla paste	⅓ oz	9 g

1. Combine the sugar, orange juice, lemon juice, and eggs in a nonreactive saucepan over medium heat.

2. Whisk until the mixture reaches 175˚F/80°C, or until all the bubbles dissipate.

3. Remove the pan from the heat and slowly whisk in the butter in increments.

4. Strain through a fine-mesh sieve into a bain-marie over an ice water bath.

5. Let the mixture cool completely at room temperature, then chill.

6. To assemble the spheres, pipe the curd into sphere molds of desired size and freeze until completely solid. Unmold and reserve in the freezer, covered, for service.

PLUM PUDDING

MAKES 64 FL OZ/1.92 L

INGREDIENT	U.S.	METRIC
Suet, cleaned	8 oz	230 g
Bread crumbs, fresh	8 oz	230 g
Dried currants	12 oz	340 g
Raisins	12 oz	340 g
Dark brown sugar	8 oz	230 g
Blanched almonds, chopped	4 oz	110 g
Candied orange peel, diced	4 oz	110 g
Candied cherries, quartered	6 oz	170 g
Lemon zest, grated	1 tsp	3 g
Eggs	9 oz	260 g
Whiskey	2 oz	60 g
Hard Sauce (pages 540 to 541), for serving	As needed	As needed

1. Line a 2-qt/2-L mold with plastic wrap, leaving enough overhang to cover the pudding.

2. Place the suet and bread crumbs in a food processor and process until smooth. Transfer to the mixer, add the remaining ingredients, and mix with the paddle attachment on medium speed until blended.

3. Fill the prepared mold. Cover the pudding with the excess plastic wrap, then cover with foil.

4. Steam the pudding in a steamer until firm, about 4 hours.

5. The pudding can be wrapped in plastic wrap and refrigerated after reaching room temperature. Steam the pudding until warm before service.

6. Serve warm with hard sauce.

CHEF'S NOTE

The suet should be as clean and white as possible. Be sure to trim off any meat scraps.

RASPBERRY MOUSSE

MAKES 3 LB 8½ OZ/1.6 KG

INGREDIENT	U.S.	METRIC
Heavy cream	1 lb 14 oz	850 g
Gelatin sheets, silver	3	3
Eggs	1½ oz	40 g
Egg yolks	6½ oz	180 g
Sugar	3 oz	90 g
Raspberry purée	15 oz	430 g

1. Whip the cream to medium peaks by hand over an ice bath. Refrigerate, covered tightly with plastic wrap.

2. Bloom the gelatin sheets for 6 minutes, or until the sheets become pliable; gently squeeze the gelatin sheets to remove any excess water.

3. Place the egg yolks, eggs, and sugar in the bowl of an electric mixer fitted with a whip attachment. Whip all ingredients together until thoroughly blended. Next, place the bowl over a pot of simmering water and heat, whisking constantly, until the mixture reaches 180°F/82°C. Return the bowl to the mixer and mix on medium speed for about 10 minutes or until cool.

4. Place a small pan halfway with water and bring to a simmer. Place the purée in a medium saucepan and melt over the small pan with simmering water. Cool the purée to 70°F/21°C.

5. Melt gelatin in a small saucepan and temper into the cooled sabayon.

6. Fold in the purée while still warm (70°F/21°C). Fold in the whipped cream. Mold and refrigerate immediately.

VARIATION

PEAR MOUSSE *Substitute an equal amount of pear purée for the raspberry purée.*

STRAWBERRY MOUSSE *Substitute an equal amount of strawberry puree for the raspberry puree.*

MANGO MOUSSE *Substitute mango purée for the raspberry purée.*

PASSION FRUIT MOUSSE *Dilute passion fruit concentrate as directed and substitute it for the raspberry purée.*

APPLE MOUSSE

YIELD: 3 LB 6⅓ OZ/1.54 KG

INGREDIENT	U.S.	METRIC
Heavy cream	1 lb 5½ oz	610 g
Gelatin, granulated	¾ oz	21 g
Apple Superpomme	1 lb 5½ oz	610 g
Calvados	1 oz	30 g
Sugar	5 oz	140 g
Egg whites	4¾ oz	130 g

1. Whip the cream to soft peaks and reserve in the refrigerator.
2. Bloom the gelatin and reserve.
3. Heat the Superpomme and Calvados to 130°F/54°C.
4. Heat one-quarter of the apple mixture with the gelatin to 115°F/46°C.
5. Add the gelatin mixture to the remaining apple mixture.
6. Make a soft-peak Italian meringue (see page 476) with the sugar and egg whites.
7. Temper the apple mixture into the meringue.
8. Fold in the whipped cream.

CHOCOLATE MOUSSE

MAKES 3 LB 8½ OZ/1.60 KG

INGREDIENT	U.S.	METRIC
Heavy cream	1 lb 14 oz	850 g
Gelatin sheets, silver	3	3
Eggs	1½ oz	40 g
Egg yolks	8½ oz	240 g
Sugar	3 oz	90 g
Rum	1 oz	30 g
Bittersweet chocolate, finely chopped	15 oz	430 g

1. Whip the cream to medium peaks by hand over an ice bath. Refrigerate, covered tightly with plastic wrap.

2. Bloom the gelatin sheets for 6 minutes, or until the sheets become pliable. Gently squeeze the gelatin sheet to remove excess moisture.

3. Place the egg yolks, eggs, sugar and rum in the bowl of an electric mixer fitted with a whip attachment. Whip all ingredients together until thoroughly blended. Next, place the bowl over a pot of simmering water and heat, whisking constantly until the mixture reaches 180°F/82°C. Return the bowl to the mixer and mix on medium speed for about 10 minutes or until cool.

4. Melt gelatin in a small saucepan and temper with the cooled sabayon. Place a small pan halfway with water and bring to a simmer. Place chocolate in a medium saucepan and melt over the small pan with simmering water.

5. Fold in the chocolate while still warm and fold in the whipped cream. Mold and refrigerate immediately.

VARIATION

COCONUT MOUSSE *Replace the chocolate with an equal amount of coconut purée.*

WHITE CHOCOLATE MOUSSE *Increase the gelatin sheets to 5 each, and replace the chocolate with an equal amount of white chocolate.*

MILK CHOCOLATE CHAI MOUSSE *Heat the cream with 1 tbsp/30 mL of chai tea. Cover and allow to steep for 5 minutes. Refrigerate the cream until fully chilled before continuing with Step 1 as written. Replace the chocolate with an equal amount of milk chocolate.*

DARK CHOCOLATE MOUSSE

MAKES 1 LB 5½ OZ/610 G

INGREDIENT	U.S.	METRIC
Bittersweet chocolate, chopped	5 oz	140 g
Butter	4 oz	110 g
Egg yolks	3 oz	90 g
Glucose syrup	½ oz	14 g
Egg whites	6 oz	170 g
Sugar	3 oz	90 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the mousse before beginning preparation.

2. Melt the chocolate and butter together to 120°F/49°C in a bowl over simmering water.

3. Combine the egg yolks and glucose in a mixer bowl and whisk together until thoroughly blended. Place the bowl over a pot of simmering water and heat, whisking constantly, until the mixture is thickened and very foamy and has reached 180°F/82°C.

4. Fold the yolk mixture into the melted chocolate and butter, adding a small amount of the yolk mixture at first, then adding the rest in a thin stream while whisking vigorously.

5. Meanwhile, make an Italian meringue (see page 476) with the egg whites and the sugar.

6. Gently fold the meringue into the chocolate mixture, incorporating it.

7. Immediately pipe or spread into prepared pastries or containers. Cover and refrigerate until completely set.

MILK CHOCOLATE MOUSSE I

MAKES 1 LB 5¼ OZ/600 G

INGREDIENT	U.S.	METRIC
ANGLAISE BASE		
Milk	4½ oz	130 g
Heavy cream	4½ oz	130 g
Egg yolks	1¾ oz	50 g
Sugar	1 oz	30 g
MOUSSE		
Gelatin, sheet	2	2
Anglaise base (above)	5¼ oz	150 g
Milk chocolate, chopped	8 oz	230 g
Whipped cream	8 oz	230 g

1. To make the anglaise base for the mousse, bring the milk and cream to a boil over medium heat. Whisk together the egg yolks and the sugar and temper them with the hot mixture. Cook to nappé. Strain.

2. Bloom the gelatin sheets in cold water, then squeeze out excess water. Scale out 5¼ oz/150 g of the warm anglaise and add the gelatin, stirring to dissolve.

3. Pour over the chocolate and using a rubber spatula, mix to thoroughly combine. Cool to room temperature.

4. When the chocolate base has reached room temperature, fold in the whipped cream. Immediately pipe as desired.

MILK CHOCOLATE MOUSSE II

YIELDS 3 LB /1.40 KG

INGREDIENT	U.S.	METRIC
Heavy cream	1 lb 7⅓ oz	660 g
Milk chocolate, finely chopped	1 lb 2⅓ oz	520 g
Milk	5 oz	140 g
Sugar	0.7 oz	20 g
Egg yolks	2¼ oz	60 g

1. Whip 1 lb 2⅓ oz/520 g of cream to a very loose peak and keep over an ice bath or in the refrigerator.
2. Place the chocolate in a bowl large enough to fit all of the ingredients. Set aside.
3. Make an anglaise with the milk, the remaining cream, sugar, and yolks (see Vanilla Sauce, page 497). Cook to slightly under nappé.
4. Strain the anglaise directly over the chocolate and stir very gently in center with a rubber spatula until the chocolate has melted.
5. Make sure the chocolate mixture is slightly above body temperature.
6. Quickly fold in the cold whipped cream.

WHITE CHOCOLATE MOUSSE PÂTE À BOMBE

MAKES 7 LB/3.18 KG

INGREDIENT	U.S.	METRIC
Heavy cream	3 lb	1.36 kg
Gelatin sheets	8	8
White chocolate, chopped	2 lb 7 oz	1.11 kg
Milk	11 oz	310 g
Sugar	6½ oz	180 g
Water	4 oz	110 g
Egg yolks	8 oz	230 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the mousse before beginning preparation.

2. Whip the cream to soft peaks. Cover and reserve under refrigeration.

3. Bloom the gelatin in cold water.

4. Melt the chocolate in a mixer bowl over barely simmering water.

5. Bring the milk to a boil. Gently stir into the melted chocolate.

6. Drain the gelatin, squeeze out excess water, add to the chocolate-milk mixture, and stir well until the gelatin melts.

7. Combine the sugar and water in a pot and boil to 250°F/121°C.

8. Whip the yolks with the whip attachment on high speed until light in color. Pour the sugar syrup into the yolks as they are whipping and whip until cool to make a pâte à bombe.

9. Fold the pâte à bombe into the chocolate mixture. Gently fold in the reserved whipped cream.

10. Immediately pipe or spread into prepared pastries or containers. Cover and refrigerate until completely set.

COFFEE MOUSSE

MAKES 1 LB 12 OZ/790 G

INGREDIENT	U.S.	METRIC
Heavy cream	9½ oz	270 g
Gelatin sheets	4	4
Kahlúa	1 oz	30 g
Coffee extract	1 oz	30 g
Egg yolks	7½ oz	210 g
Sugar	6 oz	170 g
Egg whites	2½ oz	70 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the mousse before beginning preparation.

2. Whip the cream to soft peaks. Cover and reserve under refrigeration.

3. Bloom the gelatin by completely submerging it in cold water. Drain, squeeze out excess water, and melt it with the Kahlúa and coffee extract in a saucepan over low heat.

4. Combine the egg yolks and 2½ oz/70 g of the sugar in a mixer bowl and whisk until thoroughly blended. Place the bowl over simmering water and heat, whisking constantly, until the mixture is thickened and very foamy and has reached 145°F/63°C.

5. Transfer the yolk and sugar mixture to the mixer and whip with the whip attachment on high speed until cool.

6. Measure out 6 oz/170 g of the yolk and sugar mixture and add the melted gelatin.

7. Meanwhile, make a medium-peak Italian meringue (see page 476) with the egg whites and the remaining 3½ oz/100 g of sugar.

8. Measure out 3⅓ oz/90 g of the Italian meringue for the mousse. Fold one-third of the yolk mixture into the meringue, and then fold in remaining yolk mix. Fold in the whipped cream, thoroughly incorporating it.

9. Immediately pipe or spread into prepared pastries or containers. Cover and refrigerate until completely set.

CHEF’S NOTE

Use the meringue once it is at medium peaks and still slightly warm.

DARK COFFEE MOUSSE

MAKES 1 LB 6 OZ/624 G

INGREDIENT	U.S.	METRIC
Heavy cream	11½ oz	330 g
Eggs	2	2
Sugar	1½ oz	40 g
Instant coffee granules	1 oz	30 g
Bittersweet chocolate, finely chopped	6 oz	170 g
Gelatin sheets	2	2
Coffee extract	½ tsp	2.5 mL

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the mousse before beginning preparation.

2. Whip the cream to soft peaks. Cover and reserve under refrigeration.

3. Combine the eggs, sugar, and instant coffee in a mixer bowl and whisk until thoroughly blended. Place the bowl over simmering water and heat, whisking constantly, until the mixture is thickened and very foamy and has reached at least 165°F/74°C.

4. Melt the chocolate in a bowl over barely simmering water. Reserve the chocolate at 110°F/43°C.

5. Bloom and drain the gelatin, squeeze out excess water, and melt with the coffee extract. Add to the egg mixture.

6. Once the egg mixture is cool, add 3 oz/90 g of the whipped cream to the chocolate and whisk until the mixture is homogeneous. Immediately fold the egg-gelatin mixture into the chocolate before the chocolate starts to set up.

7. Fold in the remaining cream.

8. Immediately pipe or spread into prepared pastries or containers. Cover and refrigerate until completely set.

CARAMEL MOUSSE

MAKES 2 LB 14 OZ/1.3 KG, ENOUGH TO FILL TWO 6-IN/15-CM CAKES

INGREDIENT	U.S.	METRIC
Heavy cream	14½ oz	410 g
Gelatin sheets	4	4
Water, cold	1 oz	30 g
Soft caramel (see Chef's Note)	1 lb 1½ oz	470 g
Egg yolks	4 oz	110 g
Sugar	5¼ oz	150 g
Egg whites	3¼ oz	90 g
Salt	Pinch	Pinch

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the mousse before beginning preparation.

2. Whip the cream to soft peaks. Cover and reserve under refrigeration.

3. Bloom the gelatin. Drain, squeeze out excess water, and melt it with the 1 oz/30 g water in a saucepan over low heat until dissolved.

4. Warm the soft caramel to 100°F/38°C and add the melted gelatin. Mix until fully incorporated.

5. Combine the egg yolks and 1 oz/30 g of the sugar and whip with the whip attachment on medium speed until thoroughly blended. Place the bowl over a pot of simmering water and heat, whisking constantly by hand, until the mixture is thickened, light in color, and very foamy, and has reached at least 145°F/63°C.

6. Transfer the bowl to the mixer and whip with the whip attachment on medium speed until cool.

7. Meanwhile, make a medium-peak Swiss meringue (see page 476) with the egg whites, salt, and the remaining 4¼ oz/120 g sugar.

8. Fold the egg yolk–sugar mixture into the soft caramel. Fold in the meringue. Fold in the whipped cream. Continue to fold until all components are fully incorporated.

9. Immediately pipe or spread into prepared pastries or containers. Cover and refrigerate until completely set.

CHEF'S NOTE

To make the soft caramel, place two 14-oz/400-g cans sweetened condensed milk in a pot so they are immersed in water. Keep the cans covered and the water at a low boil for 5 hours. For safety, cool slightly before opening.

STABILIZED WHIPPED CREAM

MAKES 3 LB 4½ OZ/1.49 KG

INGREDIENT	U.S.	METRIC
Gelatin, sheet	7	7
Heavy cream	3 lb 1 oz	1.39 kg
Sugar	4 oz	110 g

1. Bloom the gelatin in ice-cold water for six minutes. Gently squeeze the gelatin sheets to remove excess moisture.
2. Whip 2 lb 7 oz of the cream to soft peaks. Reserve and keep cold.
3. Combine the sugar, bloomed gelatin, and the remaining 10 oz cream in a saucepot.
4. Heat the mixture to 125°F/52°. Remove from the heat and stream steadily into the whipped cream while whipping on medium speed.
5. Be careful not to overwhip. Finish incorporating by hand by folding mousse with a rubber spatula.

CHOCOLATE CARAMEL BAVARIAN

MAKES 4 LB 2 OZ/1.87 KG

INGREDIENT	U.S.	METRIC
Heavy cream	2 lb 8½ oz	1.15 kg
Sugar	4 oz	110 g
Egg yolks	6½ oz	180 g
Gelatin sheets	4	4
Milk chocolate, melted	15 oz	430 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the Bavarian before beginning preparation.

2. Whip 2 lb/910 g of the cream to soft peaks. Cover and reserve under refrigeration.

3. Heat the remaining cream in a medium saucepan over low heat. Do not allow to boil.

4. Place the sugar in a heavy-bottomed saucepan and heat over medium heat until it melts and turns a deep amber color, about 350°F/177°C. Carefully stir in the hot cream.

5. Combine the egg yolks with the caramel, adding 2 oz/60 g of egg yolks at a time. Return to the pan and cook to 160°F/71°C. Transfer to a mixer bowl and whip with the whip attachment on high speed until cool.

6. Bloom the gelatin in cold water, squeeze out excess water, melt, and add to caramel mixture. Add the caramel mixture quickly to the melted chocolate, stirring with a whisk to combine.

7. Gently fold in the whipped cream and mix until fully incorporated.

8. Immediately pipe or spread into prepared pastries or containers. Cover and refrigerate until completely set.

LEMON FILLING FOR SHEET CAKES

MAKES 2 LB 7 OZ/1.11 KG

INGREDIENT	U.S.	METRIC
Gelatin, granulated	2½ oz	70 g
Water, cold	1 lb 4 oz	570 g
Heavy cream	1 lb 8 oz	680 g
Lemon Curd (page 425), warm	12 oz	340 g
Sorbet Syrup (page 583)	3 oz	90 g
Lemon fruit compound	1 tbsp	10 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the filling before beginning preparation.

2. Bloom the gelatin in the water and melt.

3. Whip the cream to medium peaks. Cover and reserve under refrigeration.

4. Blend together the lemon curd with the sorbet syrup and lemon fruit compound, stirring with a whisk. Add the melted gelatin. Strain and cool to 70°F/21°C.

5. Gently blend one-third of the reserved whipped cream into the lemon curd mixture. Fold in the remaining whipped cream, thoroughly incorporating it.

6. Immediately pipe or spread into prepared pastries or containers. Cover and refrigerate until completely set.

VARIATION

GRAPEFRUIT FILLING *Replace the lemon curd with Grapefruit Curd (page 425).*

CREAM CHEESE MOUSSE

MAKES 1 LB 10 OZ/740 G (ENOUGH TO FILL 50 PAULINA MOLDS)

INGREDIENT	U.S.	METRIC
Heavy cream	1 lb 2 oz	510 g
Cream cheese	1 lb 5 oz	600 g
Sugar	7 oz	200 g
Glucose syrup	¼ oz	7 g
Water	5½ oz	160 g
Egg yolks	5	5
Gelatin, granulated	½ oz	14 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the mousse before beginning preparation.

2. Whip the cream to soft peaks. Cover and reserve under refrigeration.

3. Place the cream cheese in the mixer and mix with the paddle attachment on medium speed until soft and creamy.

4. Heat the sugar, glucose syrup, and 3½ oz/100 g of the water to 240°F/116°C in a saucepan over medium heat for the pâte à bombe. Place the egg yolks in the mixer and add the hot syrup while whipping with the whip attachment on high speed. Continue to whip the pâte à bombe until it reaches maximum volume.

5. Bloom the gelatin in the remaining 2 oz/60 g water, melt, and add it to the warm pâte à bombe. Add the softened cream cheese and mix on medium speed until smooth, about 5 minutes.

6. Gently blend one-third of the whipped cream into the cream cheese mixture. Fold in the remaining whipped cream, thoroughly incorporating it. Immediately pipe or spread into prepared pastries or containers. Cover and refrigerate until completely set.

BAVARIAN CHEESE MOUSSE

MAKES 2 LB 13 OZ/1.278 KG, ENOUGH FOR THREE 6-IN/15-CM CAKES

INGREDIENT	U.S.	METRIC
Gelatin, granulated	¼ oz	7 g
Water, cold	2½ oz	80 g
Heavy cream	1 lb	450 g
Cream cheese, soft	1 lb 5¼ oz	600 g
Sugar	5¼ oz	150 g
Salt	Pinch	Pinch
Lemon zest, grated	1 tsp	3 g
Orange zest, grated	1 tsp	3 g
Vanilla extract	2 tsp	10 mL

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the mousse before beginning preparation.

2. Bloom the gelatin in the water for 15 minutes at room temperature.

3. Whip the cream to soft peaks. Cover and reserve under refrigeration.

4. Cream the cream cheese, sugar, salt, lemon and orange zests, and vanilla with the paddle attachment on medium speed until smooth, about 5 minutes.

5. Place the bloomed gelatin in a saucepan and heat to 130°F/54°C. Temper the cream cheese mixture by gradually adding the melted gelatin while stirring constantly, to ensure a smooth and consistent mousse (see Chef's Note).

6. Gently blend the whipped cream into the cream cheese mixture, thoroughly incorporating it.

7. Immediately pipe or spread into prepared pastries or containers. Cover and refrigerate until completely set.

CHEF'S NOTE

It is important to make sure the cheese is sufficiently warm when making this mousse or it will set too rapidly.

MASCARPONE MOUSSE

MAKES 2 LB/910 G

INGREDIENT	U.S.	METRIC
Brandy	½ oz	14 g
Lemon juice	1 tbsp	15 mL
Vanilla extract	1 tbsp	15 mL
Gelatin sheets	4	4
Heavy cream	15 oz	430 g
Egg yolks	5 oz	140 g
Sugar	6½ oz	180 g
Egg whites	4 oz	110 g
Mascarpone, soft	13½ oz	380 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the mousse before beginning preparation.

2. Bloom the gelatin in enough cool water to cover. Gently squeeze the bloomed sheets to remove excess water.

3. Combine the brandy, lemon juice, and vanilla in a saucepan with the bloomed gelatin and liquid in a saucepan and heat to 130°F/54°C or until the gelatin has dissolved. Keep warm.

4. Whip the cream to soft peaks. Cover and reserve under refrigeration.

5. Combine the egg yolks and 2 oz/60 g of the sugar in a mixer bowl and whisk until thoroughly blended. Place the bowl over simmering water and heat, whisking constantly, until the mixture is thickened and very foamy and has reached at least 145°F/63°C.

6. Transfer the bowl to the mixer and whip with the whip attachment on high speed until cool.

7. Meanwhile, make a Swiss meringue (see page 476) with the egg whites and the remaining 4½ oz/130 g of sugar. Whip the meringue to medium peaks.

8. Stream the melted gelatin into the still-warm meringue and continue to whip on high speed until stiff.

9. Fold the yolk-sugar mixture into the mascarpone. Fold in the meringue. Fold in the whipped cream until just incorporated.

10. Immediately pipe or spread into prepared pastries or containers. Cover and refrigerate until completely set.

PUMPKIN CHEESECAKE MOUSSE

MAKES 8 LB 8 OZ/3.86 KG, ENOUGH FOR FOUR 6-IN/15-CM CAKES

INGREDIENT	U.S.	METRIC
Gelatin, granulated	1 oz	30 g
Water, cold	8 oz	230 g
Heavy cream	4 lb	1.81 kg
Cream cheese, soft	2 lb	910 g
Light brown sugar	1 lb	450 g
Ground cinnamon	1 tsp	2 g
Ground nutmeg	1 tsp	2 g
Ground cloves	¼ tsp	0.5 g
Ground ginger	½ tsp	1 g
Salt	¼ tsp	1.5 g
Vanilla extract	1 oz	30 g
Pumpkin purée	1 lb 2 oz	510 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the mousse before beginning preparation.
2. Bloom the gelatin in the water.
3. Whip the cream to soft peaks. Cover and reserve under refrigeration.
4. Combine the cream cheese, sugar, spices, salt, and vanilla and mix with the paddle attachment on medium speed until light and smooth. Add the pumpkin purée and mix just to combine.
5. Melt the gelatin to 120°F/49°C. Temper the cheese mixture slowly by gradually adding warm gelatin to the cheese while stirring constantly with a whisk.
6. Fold in the whipped cream.
7. Divide among the pans, leveling the tops with a spatula. Cover and refrigerate until completely set.

CHOCOLATE SABAYON MOUSSE

MAKES 3 LB 6 OZ/1.53 KG

INGREDIENT	U.S.	METRIC
Bittersweet chocolate, chopped	8 oz	230 g
Gelatin, granulated	½ oz	14 g
Water	2 oz	60 g
Brandy	3 oz	90 g
Heavy cream	1 lb 8 oz	710 g
Vanilla extract	1 tbsp	15 mL
Egg yolks	6¾ oz	190 g
Sugar	4 oz	110 g
Dry sherry	6 oz	170 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the mousse before beginning preparation.

2. Melt the chocolate over barely simmering water. Turn off the heat and keep the chocolate warm over the hot water.

3. Bloom the gelatin in the water and brandy.

4. Whip the cream with the vanilla to very soft peaks. Cover and reserve under refrigeration.

5. Combine the egg yolks, sugar, and sherry in a stainless-steel bowl and whisk until thoroughly blended. Place the bowl over simmering water and heat, whisking constantly, until the mixture is thick and foamy and has reached at least 165°F/74°C. Remove from the heat.

6. Melt the gelatin and add to the egg yolk mixture. Gradually fold in the chocolate. Cool to 80°F/27°C.

7. Gently blend one-third of the reserved whipped cream into the chocolate mixture. Fold in the remaining whipped cream, thoroughly incorporating it.

8. Immediately pipe or spread into prepared pastries or containers. Cover and refrigerate until completely set.

VARIATION

MOCHA MOUSSE *Replace the dry sherry with an equal amount of cold espresso.*

GREEN TEA MOUSSE

YIELD: 3 LB 15½ OZ/1.80 KG

INGREDIENT	U.S.	METRIC
Milk	1 lb 12½ oz	812 g
Sugar	13 oz	369 g
Modified starch	1 oz	28 g
Matcha green tea powder	¾ oz	20 g
Gelatin sheets	9	9
Heavy cream	14¼ oz	406 g
Egg whites	6¼ oz	176 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the mousse before beginning preparation.

2. Bring 1 lb 9⅔ oz/730 g of the milk and 5 oz/140 g of sugar to a boil.

3. Meanwhile, make a slurry with the remaining milk and the modified starch. Add the slurry to the boiling milk and return to the heat. Boil for 30 seconds.

4. Allow the mixture to cool to 80°F/27°C.

5. Once cool, mix a small amount of the thickened milk mixture with the green tea powder to make a paste. Add it back to the remaining milk mixture and blend until smooth.

6. Bloom the gelatin.

7. Whip the cream to medium peaks. Cover and reserve under refrigeration.

8. Make a medium-peak Swiss meringue (see page 476) with the egg whites and remaining sugar.

9. Add the gelatin to the green tea mixture and bring to 115°F/46°C. Fold into the meringue in three stages. Fold in the whipped cream. Use immediately.

COCONUT RICE MOUSSE

YIELD: 4 LB 2 OZ/1.87 KG

INGREDIENT	U.S.	METRIC
COOKED RICE MIXTURE		
Water	14 oz	400 g
Jasmine rice	3½ oz	100 g
Coconut purée	As needed	As needed
Hazelnut flour	1 tbsp	9 g
MOUSSE		
Gelatin, granulated	½ oz	14 g
Cooked Rice Mixture (above)	1 lb 5 oz	600 g
Heavy cream	1 lb 11½ oz	780 g
Egg whites	7 oz	200 g
Sugar	10 oz	280 g
Salt	As needed	As needed

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the mousse before beginning preparation.

2. For the cooked rice mixture: In a saucepan, bring the water to a boil and add the rice. Lower the heat and cook, covered, until tender, about 20 minutes.

3. Scale the cooked rice and add an equal weight of coconut purée. Bring to a boil and stir. Boil until the mixture becomes very loose. Blend until fully puréed.

4. For the mousse: Bloom the gelatin and add to the hot cooked rice mixture; keep at 120°F/49°C.

5. Meanwhile, whip the cream to soft peaks, cover, and place in the refrigerator.

6. Make a medium-peak Italian meringue (see page 476) with the egg whites and sugar. Fold the rice mixture into the meringue in three additions. Fold in the whipped cream and salt to taste. Use immediately.

CHESTNUT MONT BLANC FILLING

YIELD: 4 LB 7½ OZ/2.03 KG

INGREDIENT	U.S.	METRIC
Frozen chestnuts, thawed	1 lb 14½ oz	860 g
Sugar	7½ oz	210 g
Water	2½ oz	70 g
Vanilla paste	¼ oz	7 g
Butter	7½ oz	210 g
Glucose syrup	6 oz	170 g
Chestnut cream	15¼ oz	430 g
Dark rum	2 oz	60 g

1. Steam the chestnuts until tender and set aside.

2. Cook the sugar and water in a heavy-bottomed saucepot over high heat until the mixture reaches soft ball stage (see page 923).

3. Add the chestnuts and vanilla bean paste to the cooked sugar. Whisk over low heat until well incorporated.

4. Purée the chestnut mixture with the butter, glucose, chestnut cream, and rum in a food processor until smooth. Pass the mixture through a fine-mesh sieve.

5. Store in refrigerator until needed.

PISTACHIO MOUSSELINE

MAKES 1 LB 7 OZ/650 G

INGREDIENT	U.S.	METRIC
Italian Buttercream (page 480)	7 oz	200 g
Pistachio paste	2 oz	60 g
Pastry Cream (page 417)	14 oz	400 g
Food color (optional)	As needed	As needed

1. Combine the buttercream and pistachio paste in a bowl and mix with a rubber spatula until well combined.
2. Fold in the pastry cream. Do not overmix.
3. Add a very small amount of food color, if you like.
4. Reserve under refrigeration, with plastic wrap directly onthe surface of the mousseline, until needed. This will keep for up to 3 days.

PRALINE MOUSSELINE

MAKES 1 LB 7 OZ/650G

INGREDIENT	U.S.	METRIC
Italian Buttercream (page 480)	14 oz	400 g
Praline paste	2 oz	60 g
Pastry Cream (page 417)	7 oz	200 g

1. Combine the buttercream and praline paste in a bowl and mix with a rubber spatula until well combined.
2. Gently fold in the pastry cream. Do not overmix.
3. Reserve under refrigeration, with plastic wrap directly on the surface of the mousseline, until needed. This will keep for up to 3 days.

BAVARIAN CREAM

MAKES 4 LB 8 OZ/2.04 KG

INGREDIENT	U.S.	METRIC
Gelatin, sheet	9	9
Water	8 oz	230 g
Heavy cream	2 lb	910 g
Vanilla Sauce (page 497), warm	2 lb	910 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the cream before beginning preparation.

2. Bloom the gelatin in the water, gently squeeze the bloomed gelatin to remove any excess water, and melt.

3. Whip the cream to soft peaks. Cover and reserve under refrigeration.

4. Blend the melted gelatin into the vanilla sauce. Strain, then cool in an ice water bath to 75°F/24°C, or until it begins to thicken.

5. Gently blend one-third of the vanilla sauce mixture into the reserved whipped cream. Fold into the remaining vanilla sauce mixture, thoroughly incorporating it.

6. Immediately pour into prepared molds. Cover and refrigerate until completely set.

VARIATIONS

CHOCOLATE BAVARIAN CREAM *Melt 12 oz/340 g bittersweet or milk chocolate. Blend approximately one-third of the warm vanilla sauce with the chocolate. Blend the chocolate mixture into the remaining vanilla sauce. Proceed as directed above.*

LEMON BAVARIAN CREAM *Reduce the vanilla sauce to 4 oz/110 g and add 8 oz/230 g Lemon Curd (page 425). Blend the vanilla sauce and lemon curd together just before the gelatin is added. Proceed as directed above.*

LIQUEUR BAVARIAN CREAM *Add 6 oz/170 g orange liqueur to the vanilla sauce just before the gelatin is added. Proceed as directed above.*

PRALINE BAVARIAN CREAM *Add 8 oz/230 g praline paste to the vanilla sauce just before the gelatin is added. Proceed as directed above.*

RASPBERRY BAVARIAN CREAM *Reduce the vanilla sauce to 1 lb/450 g and blend in 1 lb/450 g raspberry purée and 4 oz/113 g sugar. Proceed as directed above.*

WINE BAVARIAN CREAM *Reduce the vanilla sauce to 1 lb/450 g and add 1 lb/450 g Chablis. Blend the vanilla sauce and Chablis and proceed as directed above.*

YOGURT BAVARIAN CREAM

MAKES 4 LB 8 OZ/2.04 KG

INGREDIENT	U.S.	METRIC
Gelatin, sheet	9	9
Water	8 oz	230 g
Heavy cream	2 lb	910 g
Plain yogurt, room temperature	1 lb 8 oz	680 g
Lemon Sauce (page 497), warm	4 oz	110 g
Lemon zest, grated	2½ tsp	8 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the cream before beginning preparation.

2. Bloom the gelatin in the water, gently squeeze the bloomed gelatin to remove any excess water, and melt.

3. Whip the cream to soft peaks. Cover and reserve under refrigeration.

4. Combine the yogurt with the lemon sauce. Blend in the melted gelatin. Strain, blend in the lemon zest, and cool over an ice water bath to 75°F/24°C.

5. Gently blend one-third of the lemon sauce mixture into the reserved whipped cream. Fold in the remaining lemon sauce mixture into the whipped cream mixture, thoroughly incorporating it.

6. Immediately pour into prepared pastries or molds. Cover and refrigerate until completely set.

DIPLOMAT CREAM

MAKES 2 LB 2 OZ/964 G

INGREDIENT	U.S.	METRIC
Heavy cream	1 lb	450 g
Gelatin, sheet	2	2
Water	2 oz	60 g
Pastry Cream (page 417), flavored as desired, warm	1 lb	450 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the cream before beginning preparation.

2. Whip the cream to soft peaks. Cover and reserve under refrigeration.

3. Bloom the gelatin in the water, gently squeeze the bloomed gelatin to remove any excess water, and melt. Blend into the pastry cream. Strain, then cool over an ice water bath to 75°F/24°C.

4. Gently blend one-third of the reserved whipped cream into the pastry cream mixture. Fold in the remaining whipped cream, thoroughly incorporating it.

5. Immediately pipe into prepared pastries or containers. Cover and refrigerate until completely set.

VARIATION

ORANGE DIPLOMAT CREAM *Replace the pastry cream with an equal amount of Orange Curd (page 425).*

KIRSCH DIPLOMAT CREAM *Replace the water with Kirsch.*

STRAWBERRY YOGURT BAVARIAN

MAKES 1 LB/450 G

INGREDIENT	U.S.	METRIC
Plain yogurt	14 oz	400 g
Gelatin, sheet	2	2
Heavy cream	4 oz	110 g
Strawberry purée	2½ oz	70 g
Sour cream	2 oz	50 g
Sugar	2 oz	60 g

1. Reserve 4¼ oz/120 g of the yogurt. In a perforated container that has been lined with two layers of cheesecloth, drain the remaining yogurt for 1½ hours. Measure the yogurt after it is drained to ensure there is 5½ oz/160 g. Discard the whey drained from the yogurt. If necessary, add some of the reserved yogurt to bring the drained quantity to 5½ oz/160 g.

2. Bloom the gelatin in ice-cold water for 4 minutes. Drain well.

3. Whip the cream by hand over an ice water bath to soft-medium peaks. Reserve the whipped cream under refrigeration.

4. In a bowl, whisk together the yogurt, strawberry purée, sour cream, and sugar until well combined.

5. Place 2 oz/60 g of the yogurt mixture in a saucepot. Over low heat, mix in the gelatin until the gelatin dissolves.

6. Mix the yogurt-gelatin mixture back into the rest of the yogurt mixture. Quickly and gently fold in the whipped cream. Let cool to room temperature, then refrigerate until needed.

VARIATION

For the Strawberries Three Ways plated dessert (page 875), pour the finished yogurt Bavarian over each of the cups of Strawberry Terrine (page 461), filling them to the top. Freeze until ready to assemble.

TIRAMISÙ CREAM

MAKES 1 LB 8 OZ/680 G

INGREDIENT	U.S.	METRIC
Heavy cream	8 oz	230 g
Egg yolks	2½ oz	70 g
Sugar	3 oz	90 g
Sweet Marsala	3 oz	90 g
Mascarpone, soft	8 oz	230 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the cream before beginning preparation.

2. Whip the cream to soft peaks. Cover and reserve under refrigeration.

3. Combine the egg yolks, sugar, and Marsala in a stainless-steel bowl and whisk until thoroughly blended. Place the bowl over simmering water and heat, whisking constantly, until the mixture is thick and foamy and has reached at least 165°F/74°C.

4. Remove from the heat and whip with the whip attachment on high speed until cool.

5. Fold the egg yolk mixture into the mascarpone. Gently blend in one-third of the reserved whipped cream. Fold in the remaining whipped cream.

6. Immediately pipe or spread into prepared pastries or containers. Cover and refrigerate until completely set.

CHEF'S NOTE

To stabilize Tiramisù Cream for use in unmolded or sliced presentations, add 1½ tsp/10 g granulated gelatin or 2 sheets gelatin, bloomed and melted, to the foam in step 3.

VARIATION

SAUTERNES CRÈME *Substitute Sauternes for the sweet Marsala and stabilize with 1½ tsp/10 g granulated gelatin, bloomed in 2 oz/60 g of water and melted.*

ITALIAN CREAM

MAKES 2 LB/907 G

INGREDIENT	U.S.	METRIC
Heavy cream	1 lb	450 g
Egg whites	6 oz	170 g
Sugar	9 oz	260 g
Gelatin	¼ oz	7 g
Vanilla extract	1 tbsp	15 mL

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the cream before beginning preparation.

2. Whip the cream to soft peaks. Cover and reserve under refrigeration.

3. Prepare an Italian meringue (see page 476) with the egg whites and sugar.

4. Bloom the gelatin in cold water, drain, and melt.

5. Slowly pour the gelatin and vanilla into the meringue when it is still warm and at medium peaks.

6. Gently blend in one-third of the reserved whipped cream. Fold in the remaining whipped cream.

7. Immediately pipe or spread into prepared pastries or containers. Cover and refrigerate until completely set.

PASSION FRUIT CHIBOUSTE

MAKES 4 LB/1.81 KG

INGREDIENT	U.S.	METRIC
Gelatin, granulated	½ oz	14 g
Water	12 oz	340 g
Passion fruit juice	2 lb	910 g
Sugar	1 lb 8 oz	680 g
Cornstarch	4 oz	110 g
Eggs	8 oz	230 g
Egg yolks	6 oz	170 g
Egg whites	1 lb 4 oz	570 g

1. Assemble and prepare the desired pastries, containers, or molds that are to be used in the application of the chibouste before beginning preparation.

2. Bloom the gelatin in 4 oz/110 g of the water.

3. Combine 1 lb 11 oz/770 g of the passion fruit juice and 4 oz/110 g of the sugar in a saucepan and heat to melt the sugar.

4. Meanwhile, blend the cornstarch with the remaining 5 oz/140 g passion fruit juice. Blend the cornstarch mixture with the eggs, egg yolks, and 4 oz/110 g of the sugar.

5. Temper the egg mixture by gradually adding one-third of the hot passion fruit juice mixture, stirring constantly with a whisk. Return the tempered egg mixture to the remaining juice in the saucepan and continue cooking until it comes to a boil. Remove from the heat and add the bloomed gelatin. Cover to keep warm.

6. Place the egg whites in a mixer fitted with the whip attachment.

7. Combine the remaining 1 lb/450 g sugar and 8 oz/230 g water and bring to a boil, stirring to dissolve the sugar. Boil without stirring until the mixture reaches 240°F/116°C (soft ball stage).

8. When the sugar syrup reaches 230°F/110°C, begin beating the egg whites on high speed.

9. When the sugar syrup reaches 240°F/116°C and the egg whites have reached soft peaks, pour the hot syrup into the whipping egg whites and whip to medium peaks.

10. Fold the meringue into the passion fruit base while still warm.

11. Immediately pour into molds.

CHEF'S NOTE

Passion fruit juice generally comes in concentrated form. Make sure to reconstitute according to manufacturer's instructions before use.

VARIATION

LEMON-LIME CHIBOUSTE *Substitute 12 oz/340 g of lemon juice and 20 oz/560 g of lime juice for the passion fruit juice. Follow the remaining steps as directed above.*

PASTRY CREAM FOR SOUFFLÉS

MAKES 1 LB 10 OZ/740 G

INGREDIENT	U.S.	METRIC
Milk	1 lb	450 g
Sugar	5 oz	140 g
All-purpose flour	3 oz	90 g
Eggs	2 oz	60 g
Egg yolks	1½ oz	40 g

1. Combine 4 oz/110 g of the milk with 2½ oz/70 g of the sugar in a saucepan and bring to a boil, stirring gently with a wooden spoon.

2. Meanwhile, combine the flour with the remaining 2½ oz/70 g sugar. Stirring with a whisk, add the remaining 12 oz/340 g milk. Add the eggs and egg yolks, stirring with the whisk until the mixture is completely smooth.

3. Temper the egg mixture by adding one-third of the hot milk, stirring constantly with the whisk. Return the mixture to the remaining hot milk in the saucepan. Continue cooking, vigorously stirring with the whisk, until the pastry cream comes to a boil and the whisk leaves a trail in it.

4. Pour the pastry cream onto a large shallow container or bowl. Cover with plastic wrap placed directly against the surface of the cream, and cool over an ice water bath.

5. Store the pastry cream, covered, under refrigeration.

CHOCOLATE SOUFFLÉ

MAKES 5 SOUFFLÉS (4 FL OZ/120 ML EACH)

INGREDIENT	U.S.	METRIC
Butter	1½ oz	40 g
Bittersweet chocolate, chopped	5 oz	140 g
Pastry Cream for Soufflés (page 457), cooled	1 lb 1 oz	480 g
Egg yolks	1 oz	30 g
Egg whites	6 oz	170 g
Sugar	2½ oz	70 g

TOP LEFT: *Brush the inside of the soufflé mold with softened butter, then coat with granulated sugar.*

TOP RIGHT: *Gently fold the meringue into the soufflé base.*

BELOW LEFT: *Pipe the soufflé batter into the ramekins, filling just to the base of the rim.*

BELOW RIGHT: *The finished soufflés should be tall, light, and evenly browned.*

1. Coat the inside of the ramekins with a film of softened butter, making sure to coat the rims as well as the insides, and dust with sugar.

2. To prepare the soufflé base, melt the butter and chocolate together in a bowl over barely simmering water, gently stirring to blend. Blend the chocolate mixture into the pastry cream. Blend in the egg yolks and set aside.

3. To prepare the meringue, whip the egg whites with the whip attachment on medium speed until soft peaks form.

4. Gradually sprinkle in the sugar while continuing to whip, then whip the meringue to medium peaks.

5. Gently blend approximately one-third of the meringue into the chocolate base. Fold in the remaining meringue, thoroughly incorporating it.

6. Portion the soufflé mixture into the prepared ramekins.

7. Bake at 350°F/177°C until fully risen, about 20 minutes. Serve immediately, with an appropriately flavored sauce or other garnish.

VARIATIONS

CINNAMON SOUFFLÉ *When making the pastry cream, infuse the milk with 3 cinnamon sticks. Omit the chocolate and fold the melted butter into the pastry cream. Follow the remaining method above.*

COFFEE SOUFFLÉ *When making the pastry cream, infuse the milk with 4 oz/110 g coffee beans. Omit the chocolate, and fold the melted butter into the pastry cream. Follow the remaining method above.*

GRAND MARNIER, KAHLÚA, FRANGELICO, OR AMARETTO SOUFFLÉ *Substitute 1½ oz/40 g of the chosen liqueur and 2 extra egg yolks for the chocolate. Blend the liqueur and egg yolks into the pastry cream with the melted butter. Follow the remaining method above.*

LEMON OR ORANGE SOUFFLÉ *When making the pastry cream, infuse the milk with 1 tbsp/9 g grated lemon or orange zest. Omit the chocolate, and fold the melted butter into the pastry cream. Follow the remaining method above.*

PRALINE OR PISTACHIO SOUFFLÉ *Substitute 2 oz/60 g praline or pistachio paste and 2 egg yolks for the chocolate. Blend the nut paste and egg yolks into the pastry cream with the melted butter. Follow the remaining method above.*

PUMPKIN SOUFFLÉ *Substitute 2 oz/60 g pumpkin purée and 2 egg yolks for the chocolate. Blend the purée and egg yolks into the pastry cream with the melted butter. Follow the remaining method above.*

WHITE CHOCOLATE SOUFFLÉ *Substitute white chocolate for the bittersweet chocolate.*

RASPBERRY SOUFFLÉ

MAKES 4 SOUFFLÉS (4 FL OZ/120 ML EACH)

INGREDIENT	U.S.	METRIC
Raspberry purée	7 oz	200 g
Sugar	9 oz	230 g
Egg whites	5 oz	140 g

1. Coat the inside of the ramekins with a film of softened butter, making sure to coat the top rims of the ramekins as well as the insides, and dust with sugar.

2. Combine the purée and sugar in a saucepan and cook over medium heat, stirring to dissolve the sugar, until the mixture reaches 240°F/116°C.

3. Meanwhile, place the egg whites in the bowl of a mixer fitted with the whip attachment. When the sugar-purée mixture reaches 230°F/110°C, begin whipping the egg whites on medium speed.

4. When the sugar-purée mixture reaches 240°F/116°C and the egg whites have reached soft peaks, increase the mixer speed to high and carefully pour the hot mixture into the egg whites. Whip only to soft peaks.

5. Immediately put the mixture into a pastry bag and fill the prepared ramekins. Bake at 350°F/177°C until fully risen and lightly browned, about 20 minutes.

STRAWBERRY TERRINE

MAKES 10 TO 12 SERVINGS (2 OZ/57 G EACH)

INGREDIENT	U.S.	METRIC
Gelatin, sheet	1½	1½
Strawberry purée	2¾ oz	80 g
Apple Superpomme	¾ oz	20 g
Sugar	¾ oz	20 g
Strawberries, small dice	4¼ oz	120 g

1. Bloom the gelatin in ice-cold water for 4 minutes. Drain well and squeeze out excess water.

2. Mix the purée, Superpomme, and sugar in a saucepot and bring to a boil over high heat. Reduce the heat to low and add the diced strawberries to the sauce, cooking until the strawberries are tender, 2 to 3 minutes.

3. Remove from the heat and add the bloomed gelatin. Stir until the gelatin has dissolved.

4. Place the mixture in an ice water bath and stir occasionally to evenly cool the mixture. Cool to room temperature.

5. Evenly pour the mixture into cups, just under one-third full. Place on a sheet tray and freeze overnight.

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ICINGS, GLAZES, AND SAUCES

The use of an icing, glaze, or sauce can mean the difference between a plain baked item and a more elaborate pastry or dessert. These preparations have a wide range of uses, limited only by the imagination of the pastry chef or baker. The techniques and applications involved in making and using them are important to master, as they act to balance and adjust flavors and textures, making them an integral part of any pastry or dessert with which they are paired.

MERINGUES

WHIPPING EGG WHITES and sugar together creates the light yet stable aerated mixture known as a meringue. Meringue is commonly used for topping and filling cakes and pastries. It can also be flavored and dried in a low oven to make cookies; containers that can be used to hold fruit, mousse, or sorbet; or layers for cakes. Meringue is also used as an ingredient in mousses and batters to lighten, aerate, and leaven them.

A basic ratio for a meringue is one part egg whites to two parts sugar. As the egg whites are whipped, air is incorporated and the whites break into smaller and smaller globules to form bubbles. When sugar is whipped into the egg whites, the agitation of the mixture and the moisture of the whites begin to dissolve the sugar, which in turn surrounds the air bubbles, coating them and making them more stable.

There are a few basic rules to keep in mind for making a successful meringue. All utensils must be impeccably clean and dry. Make sure that no traces of fat of any kind come in contact with the egg whites, whether in the form of grease on the utensils or other equipment or from traces of egg yolk in the whites themselves. Fat will interfere with the protein strands and will prevent the egg whites from developing into a foam.

A small amount of an acid (cream of tartar, lemon juice, or vinegar) will relax the proteins, helping to stabilize the meringue. You can introduce an acid simply by wiping the bowl clean with lemon juice or vinegar before adding the egg whites or by adding a small amount of cream of tartar to the whites just as they begin to foam. Never use cream of tartar when whipping in a copper bowl, as it will cause a toxic reaction, turning the whites slightly green.

Room-temperature egg whites will whip up more readily. Be careful to use sugar that is free of impurities such as flour or other ingredients. Whip the egg whites on high speed until they are frothy, then gradually add the sugar while continuing to whip to the desired consistency (soft, medium, or stiff peak). Avoid overwhipping egg whites, as they become dry and lumpy, making them difficult to incorporate into other ingredients. Prepare meringue (especially common meringue) just before you intend to use it, because it will begin to collapse if it stands for any length of time.

TYPES OF MERINGUES

There are three different types of meringue: common (or French), Swiss, and Italian.

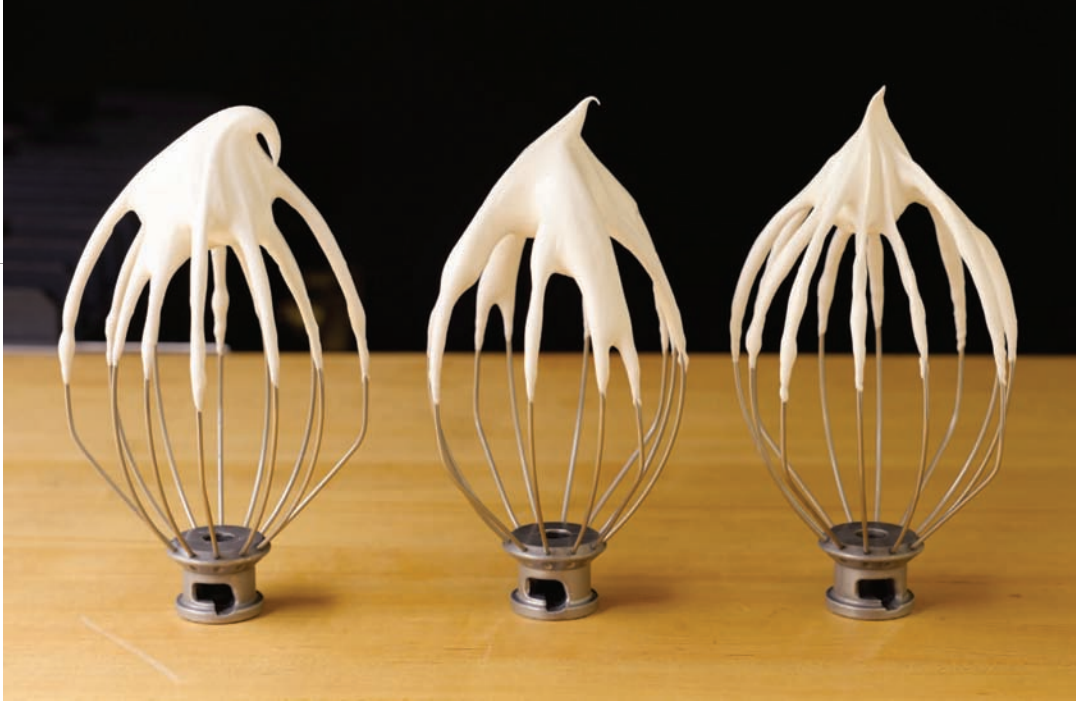
COMMON (OR FRENCH) MERINGUE

Common or French meringue is the simplest to prepare, but the least stable. Unless pasteurized egg whites are used, due to the dangers of salmonella uncooked or unbaked common meringue should not be eaten. French meringue is most commonly used as a leavening agent in batters, and is also often employed in making meringue shells or bases, layers for cakes, and for piping decorations that are to be baked. This meringue is best prepared right before its intended use, as it will begin to collapse if it stands for any length of time.

1. Place the egg whites, salt, and vanilla extract in a mixing bowl and whip on high speed until they are frothy.

2. Gradually add the sugar while continuing to whip to the desired consistency.

Adding hot syrup to the egg whites



Soft-, medium-, and stiff-peak meringues

SWISS MERINGUE

Swiss meringue is one of the more stable meringue varieties. Swiss meringue can be piped and baked or dried in the oven. It may also be used to lighten mousses and creams, to fill cakes, and to add piped borders and other decorative elements to products.

1. Stir egg whites and sugar with a whip over a hot water bath until they reach 165°F/74°C, or 115°F/46°C for pasteurized whites. Whipping the egg breaks the whites into small globules to form bubbles. This aerates the mixture, giving the final product volume and lightness in texture. The agitation created by stirring, along with the heat from the water bath, dissolve the sugar, which then surrounds the air bubbles in the whites, making them more stable.

2. Transfer the egg whites to a mixer and whip to the desired peak. A medium peak should be attained if the desired use is to add the meringue to lighten creams, while a stiff peak should be created if the meringue is intended for piping and other décor work.

ITALIAN MERINGUE

Italian meringue is the most stable of the meringues and is commonly used in various mousses and buttercreams and for décor work.

1. Whip egg whites in a mixer. Egg whites should be whipped with the whip attachment for proper aeration. Whipping the egg breaks the whites into small globules to form bubbles. This aerates the mixture, giving the final product volume and a lightness in texture.

2. Cook sugar to the soft ball stage (240°F/116°C), then add in a thin, steady stream to the whipping egg whites when they have reached the medium peak stage. Whip the whites on medium speed to the desired peak.

STAGES OF MERINGUE: SOFT, MEDIUM, AND STIFF PEAKS

Each of the various stages of meringue—soft, medium, and stiff peak—is best suited for specific applications. A soft-peak meringue will cling to the whip when lifted but will not form a pointed peak. Soft-peak meringue is commonly used in soufflés. With medium-peak meringue, a peak will form when the whip is lifted from the meringue but will droop slightly. Medium-peak meringue is used to lighten mixtures such as creams and batters. When the whip is lifted from a stiff-peak meringue, a sharp point will form and remain in the meringue. Stiff-peak meringue is the best choice for piping and décor work, as it holds its shape. All meringues should be glossy and smooth. If a stiff-peak meringue appears dry, dull, or lumpy, it has been overwhipped and will be difficult to work with.

BUTTERCREAM

BUTTERCREAM IS AN ESSENTIAL preparation in the pastry shop. Made with fresh, sweet butter, natural flavorings, and other top-quality ingredients, it is excellent as a filling or icing for many cakes and pastries. There are four types of buttercream: Italian, German, Swiss, and French. Each of these buttercream has different characteristics that make it best suited for different applications.

A layer or coating of buttercream should be even and thin. It should completely cover the cake layer or outside of the pastry or cake without being excessively thick. It should add enough moisture, flavor, and texture to complement without overpowering the pastry or cake to which it is applied.

Allow cold buttercream to come to room temperature before using. Then place it in the bowl of a mixer fitted with the paddle attachment and mix until smooth and spreadable.

ITALIAN BUTTERCREAM

Italian buttercream is made with meringue, butter, and flavorings. A meringue-based buttercream may be made with either Italian or Swiss meringue. The use of egg whites in Italian buttercream results in a relatively white-colored product that is very light in texture. The light color and texture of a finished Italian buttercream make it a common choice for wedding cakes or for any pastries requiring white frosting.

1. Combine sugar and water in a heavy-bottomed saucepan and bring to a boil over medium-high heat, stirring to dissolve the sugar. (A heavy-bottomed saucepan is used as it conducts heat most evenly.) Continue cooking, without stirring, until it reaches the soft ball stage (240°F/116°C).

2. Whip egg whites until frothy in a mixer fitted with the whip attachment on medium speed. (A whip attachment is used, as it best incorporates air into the product being mixed.) Beat the meringue to medium peaks. It is important not to overwhip the meringue, for a stiff-peaked meringue is resistant to incorporation into other ingredients.

3. When the sugar syrup reaches 240°F/116°C, add it to the meringue in a slow, steady stream while whipping on medium speed. Whip on high speed until the meringue has cooled to room temperature.

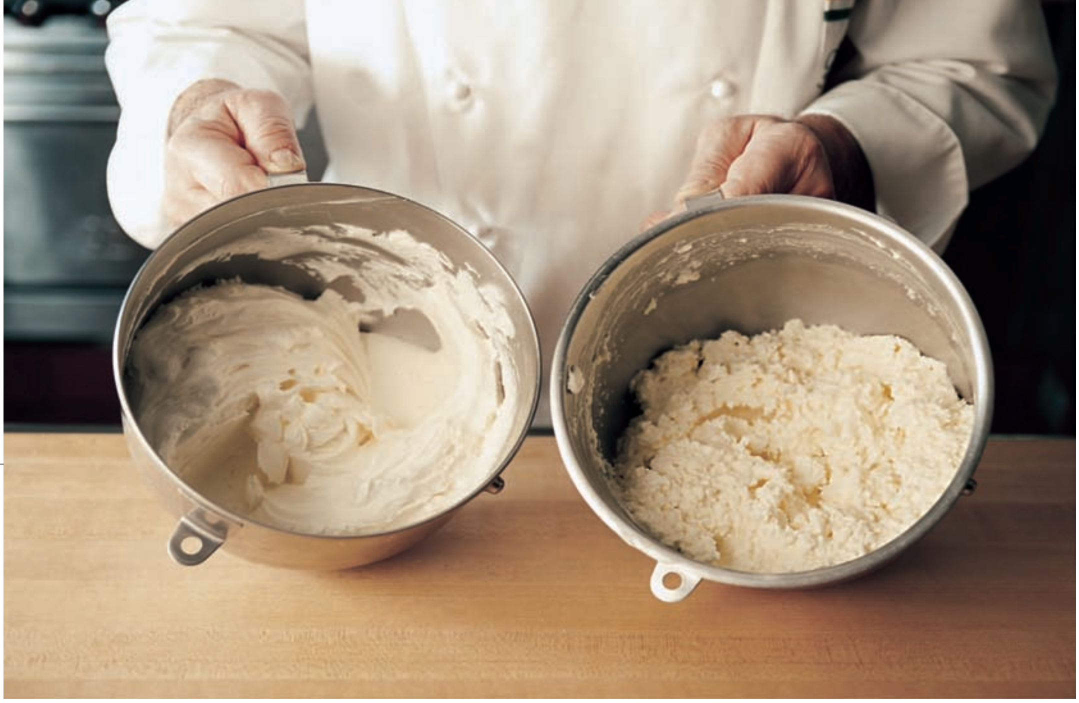
4. Add soft butter gradually, mixing until fully incorporated after each addition and scraping down the sides of the bowl as necessary. Scraping down the sides of the bowl ensures a thoroughly mixed, smooth buttercream. When using a mixer that doesn't touch the bottom of the bowl, make sure also to scrape the bottom as needed.

5. Blend in vanilla. The buttercream is now ready for use or may be tightly covered and stored under refrigeration.

SWISS MERINGUE BUTTERCREAM

The egg whites in a Swiss meringue buttercream are aerated through whipping and stabilized by the dissolving sugar, creating a meringue able to be successfully incorporated into other ingredients. The combination of the fluffy consistency and the paleness of the Swiss meringue buttercream make it ideal for use in wedding cakes and any pastries where a white buttercream is desired.

Add the soft butter chunks to the meringue while the mixer is running.



As the butter is added to an Italian buttercream, it may look broken (right), but after continued whipping, it develops a very smooth, even consistency.

1. Place sugar and egg whites in a stainless-steel bowl and whisk to combine. Set the bowl over a pan of barely simmering water and heat, whisking constantly, to 165°F/74°C. Whisking the sugar and egg whites over heat creates the Swiss meringue element of the buttercream.

2. Transfer the mixture to a mixer fitted with the whip attachment and whip on high speed until the meringue is cool.

3. Gradually add butter to the meringue while whipping on high speed; the buttercream should be light and creamy. Blend in vanilla. The element of meringue in the buttercream creates a product that is light in texture as well as in color.

4. Cover the buttercream with plastic wrap and store under refrigeration.

GERMAN BUTTERCREAM

German buttercream is a combination of pastry cream, butter, and flavorings. The pastry cream contributes to the buttercream's color. Because it is yellow in color, it is unsuitable for some purposes where a white icing is desired. German buttercream has a richer texture than meringue-based buttercreams due to the whole eggs present in the pastry cream.

1. Cream together butter and sugar until light and fluffy. The mixture of butter and sugar becomes fluffy due to the incorporation of air into the mixture through the creaming process.

2. Gradually add pastry cream, mixing after each addition until fully incorporated and scraping down the sides of the bowl as necessary.

3. Store covered under refrigeration until ready to use. German buttercream has a notably short shelf life and is unsuitable for being made in large batches and stored.

FRENCH BUTTERCREAM

French buttercream is made with either whole eggs or egg yolks, butter, cooked sugar syrup, and flavorings. It is similar to meringue-based Italian buttercream in technique, but the egg yolks make it richer and give it a yellow color.

1. Whip eggs in a mixer fitted with a whip attachment on high speed until light and fluffy, about 5 minutes. Using egg yolks in addition to whole eggs will make the final buttercream rich in flavor, as well as give the product a yellow color.

2. Combine sugar and water in a heavy-bottomed saucepan and bring to a boil, stirring to dissolve the sugar. (A heavy-bottomed saucepan is used, as it conducts heat most evenly.) Continue cooking, without stirring, until the mixture reaches 240°F/116°C.

3. Slowly pour the hot sugar syrup into the eggs while whipping on medium speed. Continue to whip until cool.

4. Gradually add butter, beating after each addition until incorporated and scraping down the sides of the bowl as necessary. Scraping down the sides of the bowl ensures a thoroughly mixed, smooth buttercream. When using a mixer that doesn't touch the bottom of the bowl, make sure to scrape the bottom as needed.

5. Blend in vanilla.

6. Store covered under refrigeration until ready to use.

FLAVORING BUTTERCREAM

Many different flavorings are compatible with buttercream. Depending on the intended use, the amount of flavoring can be reduced or increased. Flavors may also be combined. It is often practical to make a large batch of buttercream and then flavor small portions as desired. Flavorings to be added to buttercream ideally should be at room temperature so they can easily be incorporated.

WHIPPED CREAM

WHIPPED CREAM IS USED to fill, ice, and decorate cakes, tarts, and pastries, and is served as an accompaniment to endless types of desserts. It is also used to aerate and lighten various creams and mousses.

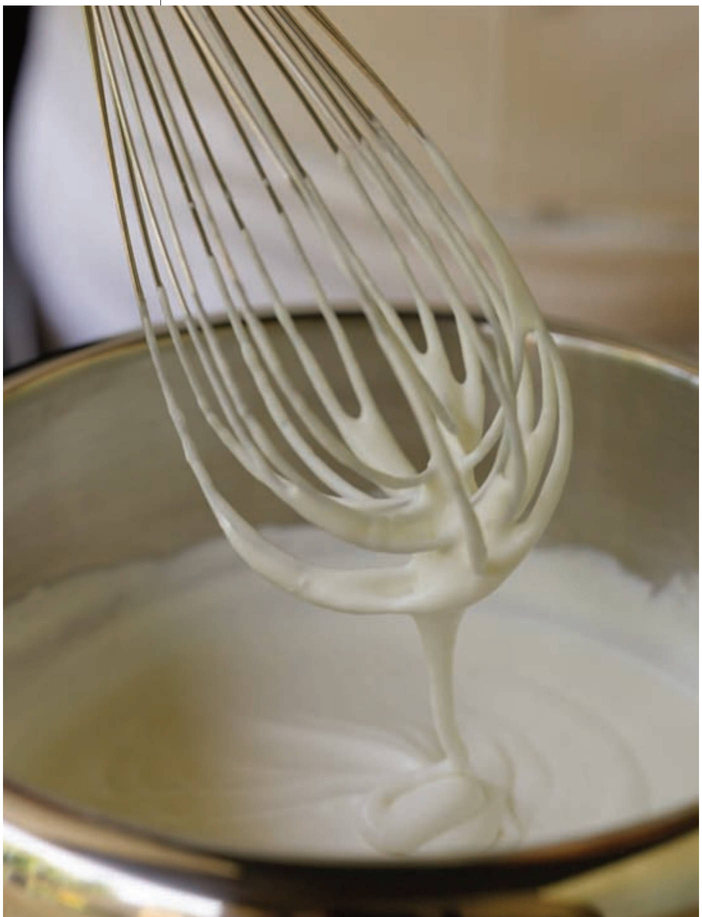
There are two important considerations when whipping cream: temperature and fat content. Use cold cream (at approximately 40°F/4°C) and a chilled bowl, and use a cream that contains at least 30 percent fat. The fat present in cream coats the air as it is incorporated, to form stable air bubbles.

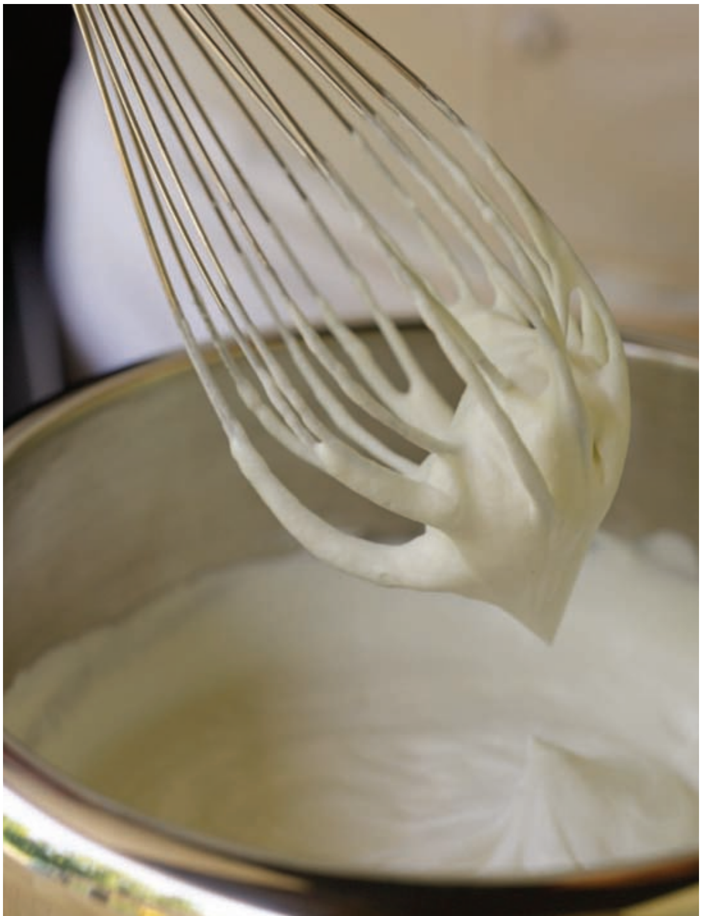
1. Place cold cream in the chilled bowl of a mixer. Whipping cream in a very warm environment can prove difficult; heat causes the fat in the cream to melt, making it impossible to whip. The cold temperature prevents the fat in the cream from melting, which allows for better incorporation of air.

2. Whip cream on high speed until it reaches the desired peaks. As whipping continues, more bubbles form, which then cling together, causing the cream to stiffen. Whipped cream can be flavored in many ways: with extracts, liqueurs, or fruit purées.

LEFT: *Soft whipped cream peaks*

RIGHT: *Stiff whipped cream peaks*





FONDANT

FONDANT IS THE TRADITIONAL glaze for petits fours, éclairs, and doughnuts, among other pastries. Most kitchens and bakeshops use purchased fondant. For fondant to have its characteristic glossy finish, it must be warmed until it is liquid enough to flow readily (105°F/41°C). Small items are typically dipped into the fondant, using a dipping fork or similar tool. Larger items are set on racks on sheet pans and the fondant is poured, ladled, spooned, or drizzled over them.

Assemble all your equipment before beginning and keep the fondant warm as you work.

1. Place fondant in a stainless-steel bowl and place over a hot water bath to heat. Do not let fondant exceed 105°F/41°C. Heating fondant reduces it to the liquid state needed to achieve the product's characteristically glossy finish. Fondant should be warmed until it is able to flow readily.

2. Thin the fondant to the desired consistency with warm water, corn syrup, or another liquid such as liqueur.

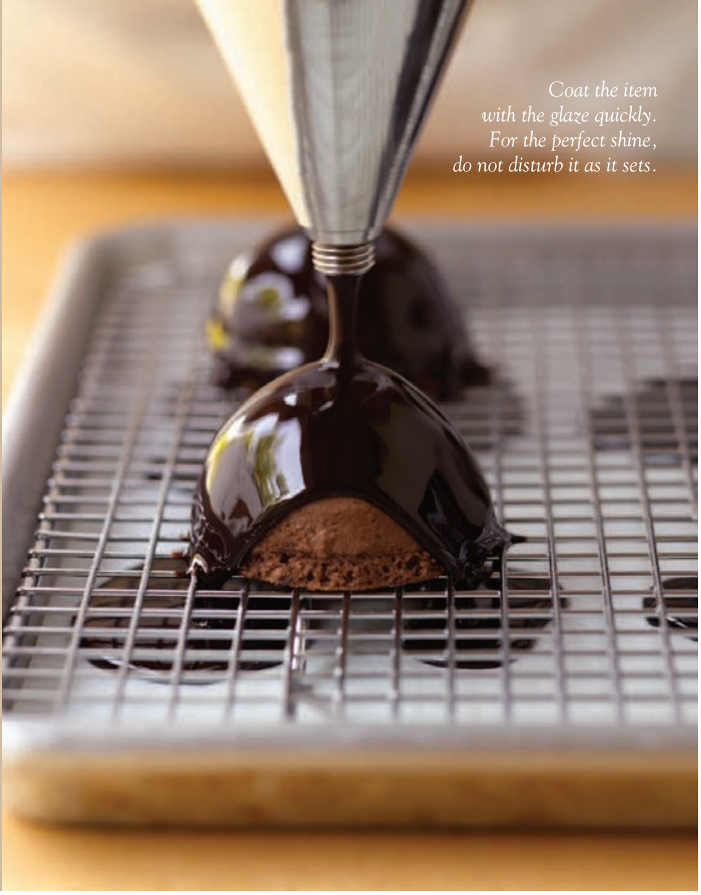
3. If desired, color or flavor the fondant. Once it has been melted, plain fondant can be colored and flavored as desired by adding coloring pastes, purées, concentrates, or chocolate. To make chocolate fondant, add about 3 oz/90 g melted unsweetened chocolate to 1 lb/450 g warmed fondant. Gradually add the chocolate to the fondant. The amount of chocolate may be adjusted to suit the desired flavor and color. To make coffee-flavored fondant, add about 2 oz/90 g coffee extract to 1 lb/450 g warmed fondant.

Fondant must be thinned to the proper dipping consistency to ensure a thin, even coating of glaze.

GLAZING WITH FONDANT, MIRROR GLAZES, OR HARD GANACHE

TO GLAZE A PASTRY means to enrobe it in a thin coating of one of many and varied products, including fondant, ganache, and jam- or gelatin-based (mirror) glazes. Glazing adds visual appeal as well as flavor, and it also helps to increase the shelf life of the finished item by sealing in moisture.

Any glaze should be smooth, fluid, and free of any lumps. A well-applied glaze should always be in a thin, smooth layer.



Coat the item with the glaze quickly. For the perfect shine, do not disturb it as it sets.

VANILLA SAUCE

VANILLA SAUCE, ALSO KNOWN as *crème anglaise*, is one of the fundamental preparations for all pastry shops. It is actually a stirred custard, made with the same ingredients used to prepare a basic baked custard. Because the mixture is stirred constantly as the eggs thicken over heat, the custard stays loose and pourable instead of setting firmly, as it would if baked. Vanilla sauce is used as a sauce accompaniment to many desserts, and also serves as the base for other classical and contemporary applications, such as Bavarian cream and ice cream. Before you start the sauce, prepare an ice bath. Have a strainer and a container to hold the finished sauce nearby.

1. Combine milk and heavy cream with salt and half of the sugar in a saucepan and bring to a boil, stirring to dissolve the sugar.

2. Blend egg yolks with the remaining half of the sugar, using a wire whip.

3. Temper the egg yolks by adding hot milk, whipping constantly. (Egg yolks should be tempered, as the addition of too much hot liquid too quickly will result in the cooking of the eggs, causing them to scramble.)

4. Return the tempered egg mixture to the hot milk in the saucepan and continue cooking carefully over low heat until the mixture thickens enough to coat the back of a spoon. Because the mixture is stirred constantly as the egg is heated, the custard stays loose instead of becoming firmly set.

5. Strain the sauce into a metal container, stir in the vanilla extract, and chill in an ice water bath. After cooking the sauce, immediately pour it through a sieve into the waiting container. Set the container in the ice bath to stop the cooking process, and stir the sauce occasionally as it cools. (If the custard is just slightly overcooked, immediately transfer it to a blender, add a little cold milk or cream, and process until smooth. Blending will rehomogenize the sauce, and the milk or cream will cool it. The rescued sauce will not have quite the same flavor and texture as a properly made sauce, but it should be fine for use as a component in another preparation.)

6. Cover tightly with plastic wrap and store under refrigeration.

CHOOSING A SAUCE

THE PROPER SAUCE is essential for a successful dessert presentation. Always serve a sauce that will complement or enhance—not overwhelm—the textures and flavors of the dessert. You may want to avoid serving a dessert with a sauce of the same consistency and texture; for example, do not serve creamy vanilla sauce with ice cream. Instead, use a fruit coulis or another sauce that will provide contrast.

The basic types of sauces used in the pastry kitchen include custard (i.e., vanilla sauce or crème anglaise), sabayon, chocolate, fruit (using fresh, frozen, or dried fruit), caramel, and reduction. There are many variations on these basic preparations. By adding or substituting ingredients, you can adapt these sauces to suit any type of dessert item.

SABAYON

SABAYON IS A RICH, substantial sauce of foamed egg yolks, sugar, and wine (Marsala is traditional in the Italian version, zabaglione). This sauce can be made ahead but is usually made to order due to its ease of preparation. Sabayon may also serve as the base for a mousse, and may be stabilized with gelatin and used as a cake or torte filling.

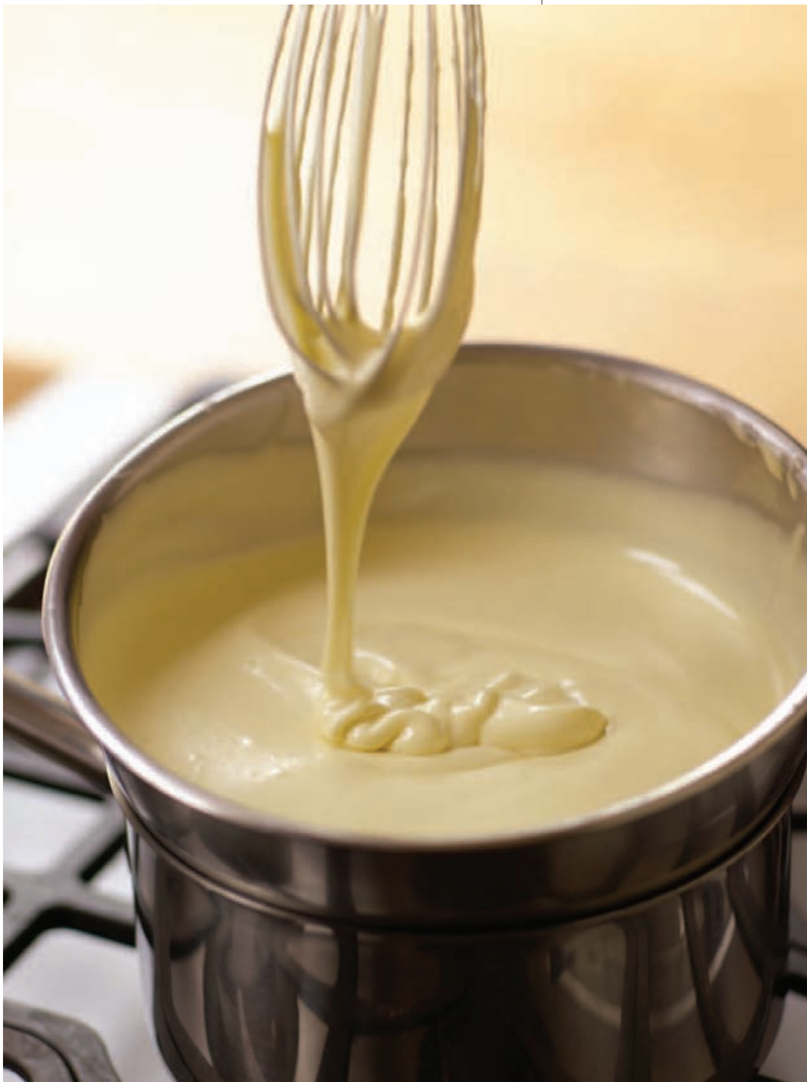
As sabayon is a very rich sauce, it is traditionally served with fresh fruit, berries, or other lean or acidic ingredients. It can be flavored as desired. If chocolate is added, the sauce will lose some of its airiness; the melted chocolate should be stirred in at the very end of the cooking process.

1. Combine egg yolks, sugar, and liquor in the bowl of a mixer and whip together until thoroughly blended. Examples of liquor or wine flavorings used in sabayon include Marsala, Champagne, bourbon, framboise, and Calvados.

2. Place the bowl over a pot of simmering water and heat, whisking constantly, until the mixture is thickened and very foamy and has reached 180°F/82°C. The yolks are whipped constantly as they cook over simmering water so a dense, thick foam develops. The mixture should be whipped vigorously. Whipping the mixture serves to incorporate air, developing the foam. Heating the mixture as it is whipped serves a dual purpose. It stabilizes the foam so that the volume is retained and also cooks the eggs sufficiently to make them safe for consumption. A properly thickened sabayon "ribbons" off the whisk.

3. Transfer the bowl to a mixer fitted with the whip attachment and whip until cool.

4. Transfer the sabayon to a container and cover it with plastic wrap placed directly against the surface, to prevent a skin from forming. Sabayon may also be served warm or at room temperature.



Beat the sabayon to the ribbon stage.

CHOCOLATE SAUCE

THE SUCCESS OF ANY chocolate sauce depends primarily on the quality of the chocolate. Use the best quality chocolate available to ensure a smooth, richly flavored sauce. Dark chocolate sauces can be made from unsweetened or bittersweet chocolate or a combination of the two. To get the most intense flavor, add a measure of cocoa powder, but be sure to adjust the sauce's flavor and sweetness with sugar.

1. Combine sugar, water, and corn syrup in a heavy-bottomed saucepan and bring to a boil over medium-high heat. Remove from the heat.
2. Place cocoa powder in a bowl and add enough of the hot sugar syrup to make a paste, stirring until smooth.
3. Gradually add the remaining syrup and mix until fully incorporated. Adding the syrup slowly ensures that the final mixture is fully hydrated and evenly incorporated.
4. Add melted chocolate and blend until fully incorporated. The chocolate must be melted carefully to prevent it from scorching or becoming grainy.
5. Strain the sauce through a fine-mesh sieve.
6. Serve warm or chilled.

Strain the chocolate sauce so that it is completely smooth.

FRUIT SAUCES

THERE ARE TWO BASIC categories of fruit sauces: coulis, which is a smooth puréed mixture made using either fresh or frozen fruit; and compote, which is a chunky mixture made using dried, fresh, or frozen fruit. Both types of sauce may be cooked or uncooked. However, coulis are typically cooked or heated only slightly to facilitate the full incorporation of sugar. Compotes, on the other hand, may be simmered for a period of time to infuse flavors, soften dried fruits, or reduce liquids.

It is important to remember to select the highest quality fruit available. Only the ripest, most flavorful fruits will yield a good-quality sauce. Fruit must be tasted to be evaluated for flavor and sugar content so that any formula can be adjusted as necessary to achieve the desired sweetness.

Fruit sauces may be used as a base for flourless soufflés or to flavor Bavarian cream, buttercream, and other fillings and frostings.

1. For a basic coulis, combine fruit, sugar, and lemon juice in a saucepan and heat over medium heat.
2. Simmer, stirring, until the sugar has dissolved, about 10 minutes.
3. Strain the coulis through a fine-mesh sieve. Straining ensures that the final coulis will be as smooth as possible, free of any seeds or other unwanted fruit product.
4. Add sugar or lemon juice to taste, if necessary.

CARAMEL SAUCE

THERE ARE TWO BASIC types of caramel sauce: clear and enriched. Clear caramel sauce is made by cooking sugar to a deep, richly flavorful caramel and then adding a liquid. A good standard ratio for making clear caramel sauce is two parts by weight of sugar to one part liquid. The liquid added to the caramel to make the sauce may be anything from water to fruit juices to liqueurs or any combination thereof, depending on the desired flavor profile. Clear caramel sauce does not require that any enrichments be added; however, a small amount of butter is often used to "finish" the sauce by stirring in after the addition of the liquid.

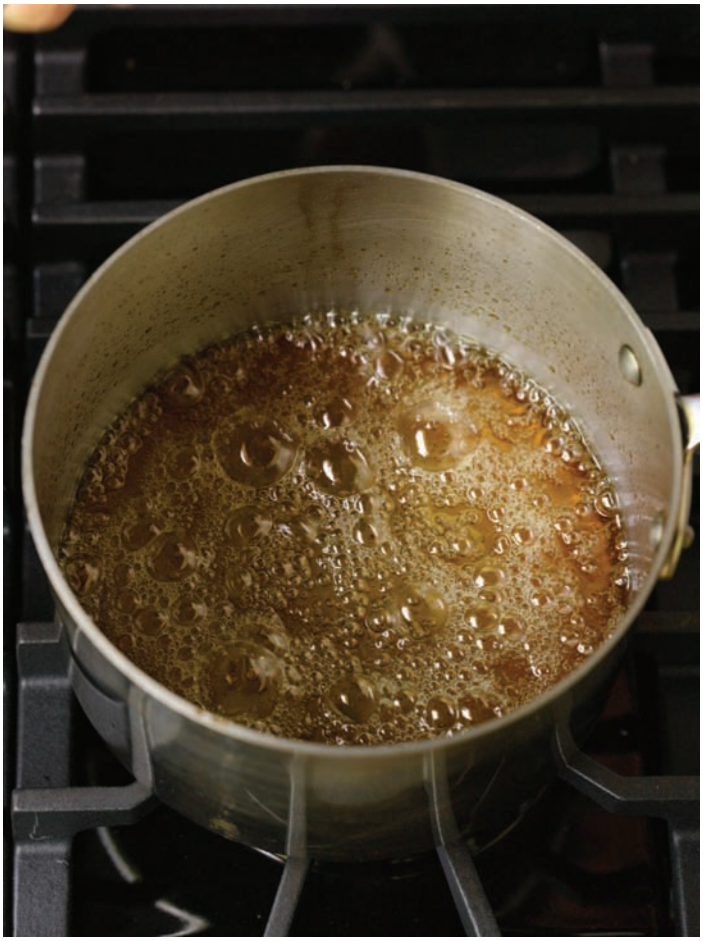
Enriched caramel sauces, like their clear counterparts, are started by caramelizing sugar, but always have butter and some type of liquid dairy product, usually heavy cream, added as an enrichment. It is important to remember that the liquid (water, fruit juice, liqueur, cream, etc.) that is to be added to caramel must be warmed first to prevent spattering of hot liquid or sugar.

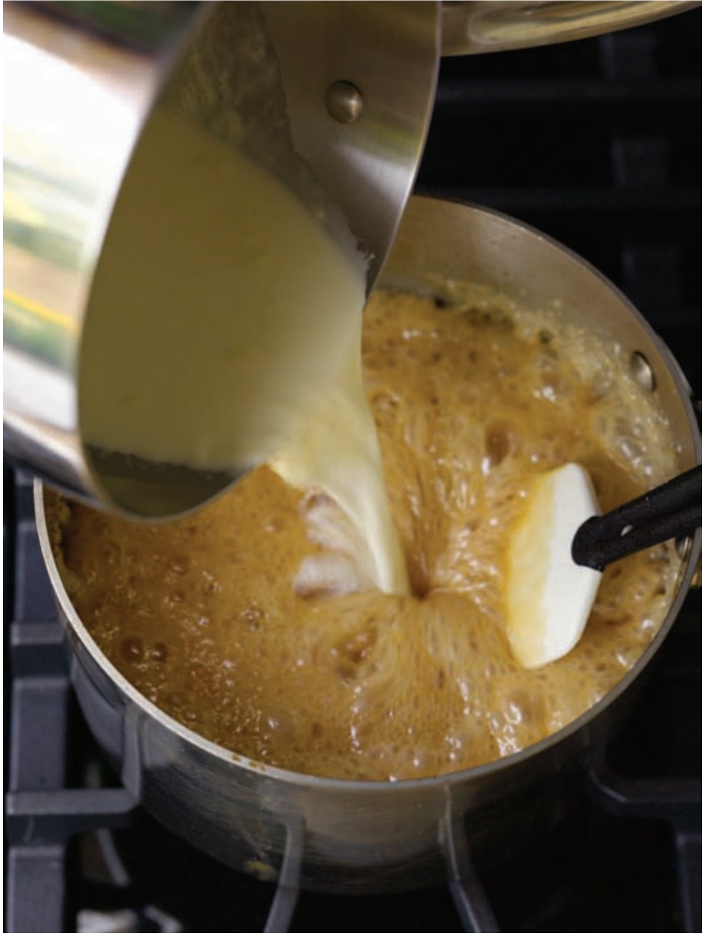
Flavors can be infused into clear or enriched caramel sauces by adding ingredients such as spices, teas, or coffee beans to the mixture after liquid has been added. These ingredients should be allowed to steep with the sauce for a few minutes to impart their full flavor and then strained from the sauce before serving. Caramel sauce can be used not only as a sauce accompaniment for a plated dessert but also as the filling for a confection, for décor, or as the base or flavoring for a filling.

1. In a saucepan, bring cream to a boil over medium heat. Leave over very low heat to keep warm.

LEFT: *Cook the caramel to the desired color.*

RIGHT: *Add the warm cream to the caramel.*





LEFT: *Stir in the butter.*

RIGHT: *The finished sauce will be smooth and even in color.*

2. Prepare an ice water bath.

3. Combine sugar and glucose syrup in a heavy-bottomed saucepan and cook slowly over moderate heat, stirring constantly until all the sugar has dissolved. Stop stirring and continue to cook to a golden caramel. Remove from the heat and shock the saucepan in the ice water bath to stop the cooking.

4. Remove from the ice water bath and stir in the butter. Carefully stir in hot cream, mixing until fully blended. Cool. The fat and emulsifiers present in the butter and cream add body and flavor to the sauce.

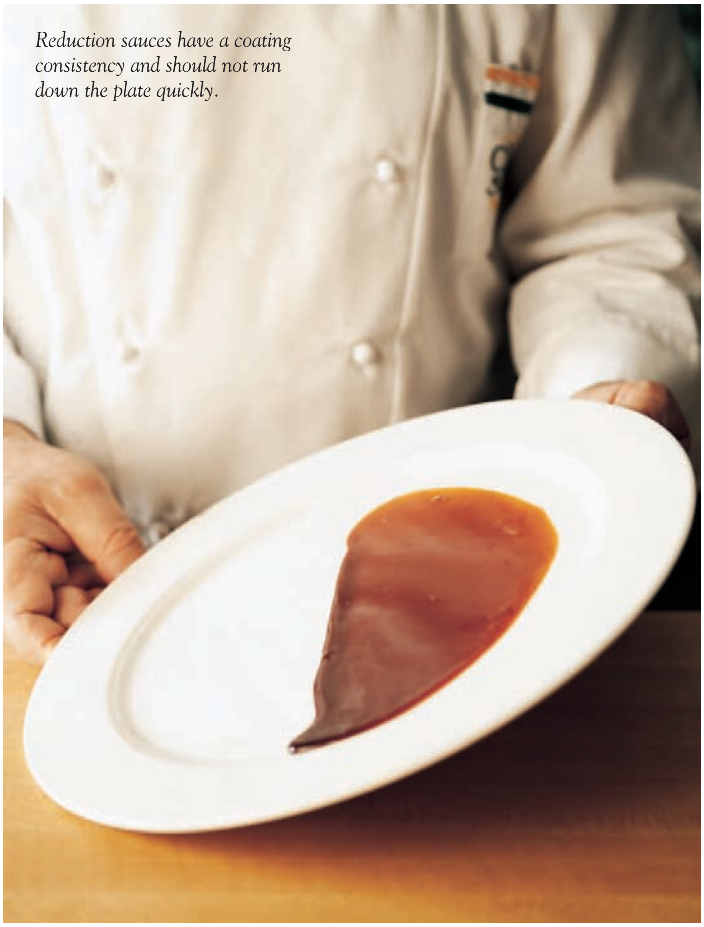
REDUCTION SAUCES

REDUCTION SAUCES HAVE a coating consistency. Reduction sauces are prepared by simmering juices, wines, or other alcoholic beverages over low to moderate heat to thicken and develop their individual characteristic flavors. Reducing liquids to create this type of sauce not only serves to enhance the desired flavor of the ingredient, but may also concentrate undesirable characteristics. For this reason, be careful when selecting ingredients for a reduction sauce, as some do not reduce successfully.

1. Combine juices or wines and other alcoholic beverages and simmer over low to moderate heat. The reduction will create the desired consistency, so monitor the sauce as it is cooking for consistency at the required service temperature.

2. Once the sauce has reduced and thickened, strain through a fine-mesh sieve.

3. Serve warm or cold.



Reduction sauces have a coating consistency and should not run down the plate quickly.

COMMON MERINGUE

MAKES 1 LB 8 OZ/680 G

INGREDIENT	U.S.	METRIC
Egg whites	8 oz	230 g
Salt	Pinch	Pinch
Vanilla extract	1 tsp	5 mL
Sugar	1 lb	450 g

1. Place the egg whites, salt, and vanilla in a bowl and whisk until frothy.

2. Gradually add the sugar while continuing to whisk, then whisk to the desired consistency.

SWISS MERINGUE

MAKES 1 LB 5 OZ/600 G

INGREDIENT	U.S.	METRIC
Egg whites	8 oz	230 g
Vanilla extract	1 tsp	5 mL
Salt	Pinch	Pinch
Sugar	1 lb	450 g

1. Place the egg whites, vanilla, salt, and sugar in the mixer bowl and stir until thoroughly combined.

2. Place the bowl over barely simmering water and slowly stir the mixture until it reaches between 115° and 165°F/46° and 74°C, depending on use.

3. Transfer the mixture to the mixer and whip with the whip attachment on high speed until the meringue is the desired consistency.

ITALIAN MERINGUE

MAKES 1 LB 8 OZ/680 G

INGREDIENT	U.S.	METRIC
Sugar	1 lb	450 g
Water	4 oz	110 g
Egg whites	8 oz	230 g
Salt	Pinch	Pinch
Vanilla extract	1 tsp	5 mL

1. Combine 12 oz/340 g of the sugar with the water in a heavy-bottomed saucepan and bring to a boil over medium-high heat, stirring to dissolve the sugar. Continue cooking without stirring until the mixture reaches the soft ball stage (240°F/116°C).

2. Meanwhile, place the egg whites, salt, and vanilla in the bowl of a mixer fitted with the whip attachment.

3. When the sugar syrup has reached approximately 230°F/110°C, begin whipping the whites on medium speed until frothy. Gradually add the remaining 4 oz/110 g sugar and beat the meringue to soft peaks.

4. When the sugar syrup reaches 240°F/116°C, add it to the meringue in a slow, steady stream while whipping on medium speed. Whip on high speed to stiff peaks. Continue to whip on medium speed until completely cool.

CHOCOLATE MERINGUE

MAKES 1 LB 8¾ OZ/700 G

INGREDIENT	U.S.	METRIC
Egg whites	8 oz	230 g
Granulated sugar	13 oz	370 g
Confectioners' sugar	3 oz	90 g
Cocoa powder	¾ oz	20 g

1. Place the egg whites in a bowl and whisk until frothy.

2. Gradually add the granulated sugar while continuing to whisk, then whisk to the desired consistency.

3. Sift together the confectioners' sugar and cocoa and fold into the meringue.

SWISS MERINGUE DISKS

MAKES 16 DISKS, 2 IN/5 CM EACH

INGREDIENT	U.S.	METRIC
Egg whites	5 oz	140 g
Sugar	7½ oz	210 g

1. Draw sixteen 2-in/5-cm circles on sheets of parchment, using a metal ring as a guide. Place the parchment on a sheet pan with the ink or pencil side down so it does not come in contact with the meringue.

2. Prepare a Swiss meringue with the egg whites and sugar. Whip on high speed to medium peaks.

3. Fit a piping bag with a #3 straight tip and pipe spirals onto the parchment.

4. Bake overnight in a 180°F/82°C oven with the door cracked.

VACHERIN (SWISS MERINGUE)

MAKES APPROXIMATELY 60 INDIVIDUAL MERINGUES

INGREDIENT	U.S.	METRIC
Egg whites	5 oz	140 g
Cream of tartar	Pinch	Pinch
Granulated sugar	8 oz	230 g
Confectioners' sugar	½ oz	14 g
Purple food coloring (water-based, not oil-based)	As needed	As needed

1. Add a pinch of cream of tartar to the egg whites and stir in the granulated sugar.

2. Immediately heat over a flame, seconds at a time, stirring constantly. Heat to 135°F/57°C.

3. As soon as the whites are at temperature, whip on high speed to maximum volume to proceed with the following step.

4. When full volume is reached and the resulting meringue is around body temperature, turn the mixer to low and mix in the confectioners' sugar and a very small amount of the food coloring.

5. Pipe using a large sultan tip onto parchment lined sheet pans and dry the meringue overnight in 200°F/93°C oven.

VANILLA ITALIAN MERINGUE

MAKES 1 LB/450 G

INGREDIENT	U.S.	METRIC
Sugar	8 oz	230 g
Water	2½ oz	70 g
Glucose syrup	2 oz	60 g
Vanilla bean, seeds only	1	1
Egg whites	5 oz	140 g

1. Cook 7 oz/198 g of the sugar, the water, glucose and scraped vanilla bean seeds to 250°F/121°C.

2. As soon as the whites are at 240°F/115°C, whip the egg whites and remaining sugar on high speed to maximum volume to proceed with the following step.

3. Stream the cooked sugar very slowly into the whites on high speed. Whip to medium peaks.

SWISS MERINGUE BUTTERCREAM

MAKES 2 LB 12 OZ/1.25 KG

INGREDIENT	U.S.	METRIC
Sugar	1 lb	450 g
Egg whites	8 oz	230 g
Butter, cut into medium chunks, soft	1 lb 4 oz	570 g
Vanilla extract	2 tsp	10 mL

1. Place the sugar and egg whites in a stainless-steel mixer bowl and whisk to combine. Set the bowl over barely simmering water and heat, whisking constantly, to 165°F/74°C.

2. Transfer the bowl to the mixer and whip with the whip attachment on high speed until the meringue is the desired consistency.

3. Gradually add the butter to the meringue while whipping on high speed; the buttercream should be light and creamy. Blend in the vanilla.

4. Cover and store in the refrigerator until ready to use.

ITALIAN BUTTERCREAM

MAKES 6 LB 9 OZ/2.98 KG

INGREDIENT	U.S.	METRIC
Sugar	2 lb	910 g
Egg whites	1 lb	450 g
Water	8 oz	230 g
Butter, cubed and softened	3 lb	1.36 kg
Vanilla extract	1 tbsp	15 mL
Flavorings	As needed	As needed

1. Combine 8 oz/230 g of the sugar with the egg whites in the mixer bowl.

2. Combine the water with the remaining sugar in a saucepan. Cook the mixture until it reaches the soft ball stage (240°F/116°C).

3. When the sugar syrup reaches 230°F/110°C, begin whipping the egg whites with the whip attachment on medium speed. The egg whites should reach soft peaks at the same time the sugar reaches the desired temperature.

4. Stream the hot sugar into the whipping whites. Continue whipping until cooled to room temperature.

5. Once the meringue is cool, switch to the paddle attachment and gradually add the butter on medium speed. Beat until smooth and light; flavor as desired.

6. Cover and store under refrigeration until ready to use.

VARIATIONS

CHOCOLATE BUTTERCREAM *Add 3 oz/90 g melted and cooled bittersweet chocolate to 1 lb/450 g prepared buttercream.*

COFFEE BUTTERCREAM *Add ½ oz/14 g coffee paste, ½ fl oz/14 g brandy, and 1 tsp/5 mL vanilla extract to 1 lb/450 g prepared buttercream.*

HAZELNUT BUTTERCREAM *Add 2 oz/60 g praline paste, 1 tbsp/15 mL brandy, and 1 tsp/5 mL vanilla extract to 1 lb/450 g prepared buttercream.*

KIRSCH BUTTERCREAM *Add 2 oz/60 g melted and cooled white chocolate and 1 oz/30 g kirsch to 1 lb/450 g prepared buttercream.*

MILK CHOCOLATE BUTTERCREAM *Add 2 oz/60 g melted and cooled milk chocolate to 1 lb/450 g prepared buttercream.*

MOCHA BUTTERCREAM *Add 3 oz/90 g melted and cooled bittersweet chocolate and 1 tbsp/14 g espresso powder to 1 lb/450 g prepared buttercream.*

WHITE CHOCOLATE BUTTERCREAM *Add 2 oz/60 g melted and cooled white chocolate to 1 lb/450 g prepared buttercream.*

FRENCH BUTTERCREAM

MAKES 3 LB/1.36 KG

INGREDIENT	U.S.	METRIC
Whole eggs	8 oz	230 g
Egg yolks	8 oz	230 g
Sugar	1 lb 2 oz	510 g
Water	4 oz	110 g
Butter, cut into medium chunks, soft	1 lb 8 oz	680 g
Vanilla extract	2 tsp	10 mL

1. Whip the eggs and yolks with the whip attachment on high speed until light and fluffy, about 5 minutes.
2. Combine the sugar and water in a heavy-bottomed saucepan and bring to a boil, stirring to dissolve the sugar. Continue cooking without stirring until the mixture reaches 240°F/116°C.
3. Slowly pour the hot sugar syrup into the eggs while whipping on medium speed. Continue to whip until cool.
4. Gradually add the butter, beating each addition until incorporated and scraping down the sides of the bowl as necessary. Blend in the vanilla.
5. Cover and store under refrigeration until ready to use.

GERMAN BUTTERCREAM

MAKES 2 LB 4 OZ/1.02 KG

INGREDIENT	U.S.	METRIC
Butter, soft	1 lb	450 g
Confectioners’ sugar, sifted	4 oz	110 g
Pastry Cream (page 417)	1 lb	450 g

1. Cream together the butter and sugar with the paddle attachment on medium speed until light and fluffy, about 5 minutes.
2. Gradually add the pastry cream, mixing each addition until fully incorporated and scraping down the sides of the bowl as necessary.
3. Cover and store under refrigeration until ready to use.

CREAM CHEESE ICING

MAKES 2 LB/910 G

INGREDIENT	U.S.	METRIC
Cream cheese	1 lb	450 g
Butter, soft	8 oz	230 g
Confectioners' sugar, sifted	8 oz	230 g
Vanilla extract	1 tbsp	15 mL

1. Blend the cream cheese with the paddle attachment on low speed until smooth.
2. Add the butter in stages and blend well.
3. Add the confectioners' sugar and blend on low speed until fully incorporated. Beat on high speed until light and fluffy, about 5 minutes. Blend in the vanilla.
4. Cover and store under refrigeration until ready to use.

VARIATION

LEMON CREAM CHEESE ICING *Add the grated zest of 1 lemon to the icing with the vanilla.*

CHANTILLY CREAM

MAKES APPROXIMATELY 8 OZ/230 G

INGREDIENT	U.S.	METRIC
Heavy cream	8 oz	230 g
Confectioners' sugar	1 oz	30 g
Vanilla extract	1 tsp	5 mL

1. Whisk the cream by hand over an ice water bath to medium peaks.
2. Add the sugar and vanilla and continue to whisk by hand to stiff peaks.
3. Cover and store under refrigeration until ready to use.

VARIATIONS

CINNAMON CHANTILLY CREAM *Add ½ tsp/1 g ground cinnamon to the cream before whipping.*

COFFEE CHANTILLY CREAM *Add 1 oz/30 g Coffee Concentrate (page 1072) to the cream before whipping.*

MAPLE WHIPPED CREAM

MAKES 4¾ OZ/130 G

INGREDIENT	U.S.	METRIC
Heavy cream	3¾ oz	110 g
Maple sugar	1 oz	30 g

Combine the heavy cream and maple sugar and whisk to medium/stiff peak.

SOFT GANACHE

MAKES 3 LB 6 OZ/1.53 KG

INGREDIENT	U.S.	METRIC
Dark chocolate, finely chopped	1 lb 4 oz	570 g
Heavy cream	2 lb	910 g

1. Place the chocolate in a stainless-steel bowl.
2. Bring the cream to a simmer. Pour the hot cream over the chocolate. Allow to stand for 1 minute, then gently stir to blend. Strain and cool.
3. Cover with plastic wrap and refrigerate overnight before using.
4. Whip the ganache to desired peaks for use.

CHEF'S NOTE

For a lighter-flavored ganache, add an equal amount of cream (by volume) to the chilled ganache before whipping.

VARIATIONS

MEDIUM GANACHE *Increase the amount of chocolate to 2 lb/910 g and follow the method above.*

SOFT MILK CHOCOLATE GANACHE *Substitute milk chocolate for the dark chocolate.*

SOFT WHITE CHOCOLATE GANACHE *Substitute white chocolate for the dark chocolate.*

HARD GANACHE

MAKES 6 LB/2.72 KG

INGREDIENT	U.S.	METRIC
Dark chocolate, finely chopped	4 lb	1.81 kg
Heavy cream	2 lb	910 g

1. Place the chocolate in a stainless-steel bowl.

2. Bring the cream just to a simmer. Pour the hot cream over the chocolate, allow to stand for 1 minute, and stir until the chocolate is thoroughly melted.

3. Use immediately, or cover and store under refrigeration. Rewarm before use.

TOP LEFT: *Pour the hot cream over the chopped chocolate.*

TOP RIGHT: *Stir the mixture to form an emulsion.*

BELOW LEFT: *The finished ganache will be smooth.*

BELOW RIGHT: *Soft, medium, and hard ganache*

4
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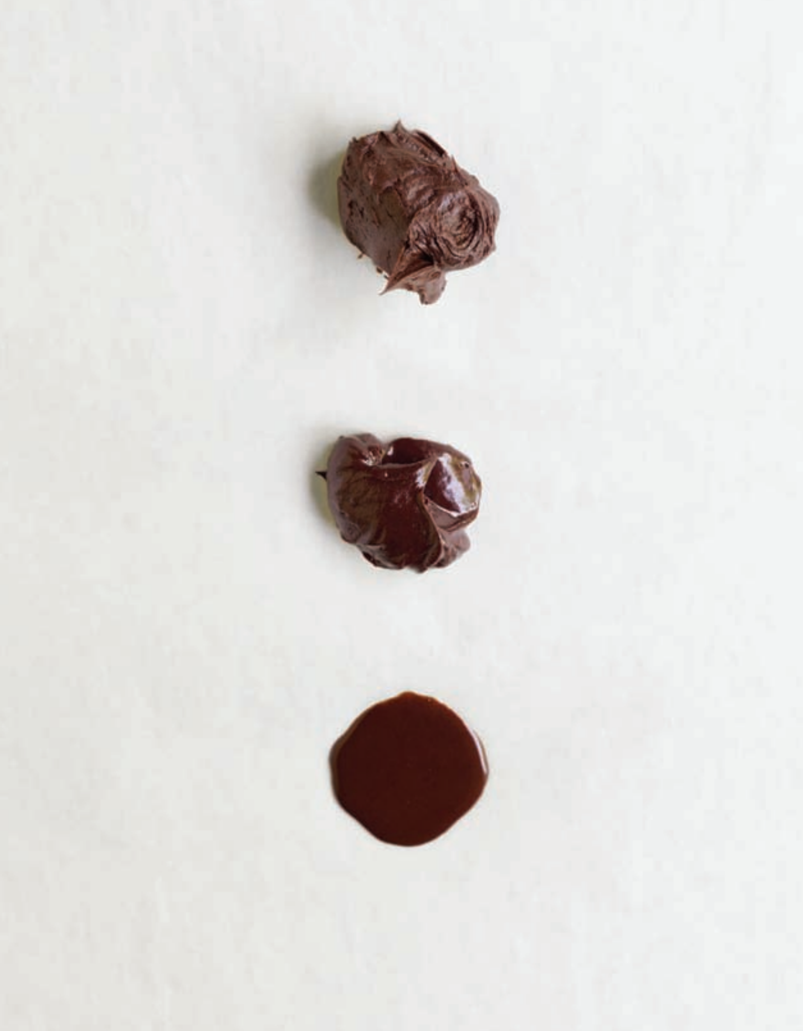

CINNAMON GANACHE

MAKES 1 LB/450 G

INGREDIENT	U.S.	METRIC
Heavy cream	3 oz	90 g
Milk	3 oz	90 g
Ground cinnamon	1 tsp	2 g
Cinnamon sticks	1	1
Light corn syrup	½ oz	14 g
Milk chocolate, finely chopped	10 oz	280 g

1. Combine the cream, milk, cinnamons, and corn syrup and bring to a simmer.

2. Remove from the heat, remove the cinnamon stick, and pour over the chopped chocolate. Allow to sit for 1 minute, then stir gently to combine. Allow to rest, covered, for about 20 minutes.

3. Use immediately, or cover and store in the refrigerator. To use if refrigerated, reheat in a double boiler.

PEANUT BUTTER GANACHE

MAKES 1 LB 3 OZ/540 G

INGREDIENT	U.S.	METRIC
Milk chocolate, finely chopped	9¾ oz	280 g
Peanut butter, room temperature	6 oz	170 g
Butter, soft and extremely pliable	3½ oz	100 g

1. Melt the chocolate gently over a double boiler. It must be completely melted but not excessively warm.

2. Add the peanut butter all at once and stir by hand with a rubber spatula until fully incorporated. Work quickly but thoroughly.

3. Add the soft butter in one addition and stir until melted and fully incorporated. The resulting temperature of the mixture should be a little below body temperature and the consistency should be liquid.

4. Spread the mixture immediately into a full-size 1-in/3-cm deep frame base and spread evenly with a large offset spatula, making sure that the surface is flat and level.

5. Insert the entire frame into the blast freezer for 5 minutes, or until set.

CHOCOLATE CARAMEL GANACHE

MAKES 12 OZ/340 G

INGREDIENT	U.S.	METRIC
Sugar	5¼ oz	150 g
Lemon juice	2 drops	2 drops
Light corn syrup, warm	½ oz	14 g
Bittersweet chocolate, 70%, finely chopped	5¼ oz	150 g
Butter	2 oz	60 g
Dark rum	1½ tsp	7.5 mL
Heavy cream, warm	6 oz	170 g
Salt	Pinch	Pinch

1. Combine the sugar and lemon juice in a saucepot and cook, stirring gently, to a rich golden brown. Add the corn syrup. Remove from the heat.

2. Pour the caramel over the chocolate and allow to stand for 1 minute. Stir gently to combine.

3. Add the butter, rum, cream, and salt and stir until smooth.

4. Cool overnight in the refrigerator, covered, or cool to room temperature.

5. Table the ganache (see “Tabling Method” in Chapter 21, page 907) prior to spreading or piping.

SOFT MILK CHOCOLATE CARAMEL

MAKES: 14¼ OZ/400 G CARAMEL

INGREDIENT	U.S.	METRIC
Sugar	2½ oz	70 g
Glucose syrup	1 oz	30 g
Cream, warm	2½ oz	70 g
Milk chocolate pistoles	3 oz	90 g
Pecans, toasted and chopped	5¼ oz	150 g
Salt	¾ tsp	4.5 g

1. Caramelize the sugar and glucose using the dry method (see page 923) to a medium amber color.
2. Add the cream and stir over the heat to dissolve all the lumps.
3. Pour the caramel over the chocolate and allow to stand for 1 minute. Stir gently to combine. Stir in the nuts and salt.
4. Spread in an even layer in a sheet pan lined with a silicone baking matand chill until set.

MILK CHOCOLATE GLAZE

MAKES 4 LB/1.81 KG

INGREDIENT	U.S.	METRIC
Gelatin, sheet	¾ oz	20 g
Milk	1 lb	450 g
Glucose syrup	7 oz	200 g
Milk chocolate, chopped	1 lb 5 oz	600 g
Pâte à glacer, blonde	1 lb 5 oz	600 g

1. Bloom the gelatin in cold water.
2. Bring the milk and glucose syrup to a boil.
3. Squeeze the water out of the gelatin and melt it in the hot liquid. Pour over the chocolates, stirring to combine. Let cool. Use the glaze at 85°F/29°C on frozen desserts.

ULTRASHINY CHOCOLATE GLAZE

MAKES 4 LB 11 ½ OZ/2.14 KG

INGREDIENT	U.S.	METRIC
Heavy cream	8¼ oz	235 g
Milk	1 lb	450 g
Glucose syrup	7¾ oz	220 g
Coating chocolate (pâte a glacer)	9½ oz	270 g
Dark chocolate, 64%	1 lb 2 oz	510 g

1. In a saucepan over moderate heat, combine the cream, milk, and glucose syrup. Bring to a boil.

2. Pour the milk mixture over the coating chocolate and dark chocolate. Stir to form an emulsion. Use a hand blender to emulsify, if needed.

3. Cool the mixture to about 95°F/35°C before using. This recipe can be refrigerated for up to 5 days.

DARK CHOCOLATE GLAZE

MAKES: 1 LB 8 OZ/680 G

INGREDIENT	U.S.	METRIC
Heavy cream	6 oz	180 g
Light corn syrup	3 oz	90 g
Canola oil	2 oz	60 g
Glucose syrup	3 oz	90 g
Dark chocolate, finely chopped	8 oz	230 g
Milk	2 oz	60 g

1. Bring 2 oz/60 g of the cream, the corn syrup, oil, and glucose to a boil.

2. Add the chocolate and, using a rubber spatula, mix until combined.

3. Blend in the milk and the remaining cream.

MIRROR GLAZE

MAKES 18 FL OZ/540 ML (SEE CHEF'S NOTES)

INGREDIENT	U.S.	METRIC
Gelatin, sheet	4	4
Liquid, sweetened, flavored	1 lb	450 g

1. Bloom the gelatin in enough cold water to cover it completely. Squeeze out excess water.

2. Warm the flavored liquid. Add the gelatin to the warm liquid and stir to dissolve.

3. Cool over an ice water bath to 70°F/21°C before pouring onto mousse cakes in rings.

4. Chill to set before removing the cake ring.

CHEF'S NOTES

This yields enough to glaze the tops of three 10-in/25-cm cakes or 1½ full sheet cakes. Mirror glaze should be cool but still liquid when poured onto delicate mousses. If the glaze does not stay level when placed in the refrigerator, prop the cakes or pan level before the glaze sets.

SPICED MIRROR GLAZE

MAKES 30 FL OZ/900 ML

INGREDIENT	U.S.	METRIC
Water	1 lb 4 oz	570 g
Sugar	12 oz	340 g
Vanilla bean	1	1
Allspice berries	3	3
Cinnamon sticks	2	2
Cloves	1	1
Ground nutmeg	¼ tsp	0.5 g
Ground ginger	¼ tsp	0.5 g
Orange zest, grated	1 tbsp	9 g
Lemon juice	4 oz	110 g
Gelatin, granulated	¾ oz	20 g
Rum	1 oz	30 g

1. Combine 15 oz/430 g of the water with the sugar in a saucepan and bring to a boil over medium heat, stirring to dissolve the sugar.

2. Split the vanilla bean, scrape the seeds into the sugar syrup, and add the pod. Add the allspice berries, cinnamon sticks, clove, nutmeg, ginger, orange zest, and lemon juice. Remove from the heat and steep for 15 minutes, then strain.

3. Bloom the gelatin in the rum and the remaining 5 oz/140 g water, then melt. Blend the melted gelatin with the spiced mixture.

4. Cool the glaze to 70°F/21°C. Use immediately.

CARAMEL GLAZE

MAKES 2 LB/910 G

INGREDIENT	U.S.	METRIC
Gelatin, sheet	½ oz	14 g
Sugar	15 oz	430 g
Lemon juice	1 oz	30 g
Water	10 oz	280 g
Heavy cream	12½ oz	350 g
Vanilla bean	1	1
Salt	Pinch	Pinch
Cornstarch	1 oz	30 g

1. Bloom the gelatin in cold water.
2. Combine the sugar and lemon juice and cook to medium amber color.
3. Slowly add 7½ oz/210 g of the water, the cream, vanilla bean, and salt to the caramel.
4. Combine the cornstarch with the remaining water to make a slurry. Whisk the slurry into the caramel and bring to a boil. Remove from the heat.
5. Squeeze excess water out of the gelatin and add the gelatin to the hot caramel mixture. Stir to melt and combine.
6. Strain. It is ready to use now or may be refrigerated and rewarmed for later use.

APRICOT GLAZE

MAKES 24 FL OZ/720 ML

INGREDIENT	U.S.	METRIC
Gelatin, granulated	½ oz	14 g
Water	8 oz	230 g
Light corn syrup	12 oz	340 g
Lemon juice	4 oz	110 g
Apricot jam	12 oz	340 g

1. Bloom the gelatin in the water, then melt.
2. Combine the corn syrup, lemon juice, and apricot jam in a saucepan and bring to a boil over medium heat. Blend in the melted gelatin.
3. Cool the glaze to 75°F/24°C. Strain and use immediately.

AMARETTO GLAZE

MAKES 1 LB 2 OZ/510 G

INGREDIENT	U.S.	METRIC
Confectioners' sugar	13½ oz	380 g
Heavy cream	3 oz	90 g
Amaretto	1½ oz	40 g

1. Combine all of the ingredients in a bowl and whisk until a thick, even paste forms. Adjust the consistency with confectioners' sugar or liquid, as needed.
2. Use the glaze right away or transfer it to an airtight container and refrigerate for up to 3 weeks.

MAPLE GLAZE

MAKES 1 LB 2 OZ/510 G

INGREDIENT	U.S.	METRIC
Poured fondant	1 lb	450 g
Maple syrup, B grade	8 oz, or as needed	230 g, or as needed

1. Warm the fondant to the proper consistency (see page 469). Thin the fondant with the maple syrup.
2. Taste the glaze and adjust the maple flavor as needed with additional maple syrup.

THREAD GLAZE

MAKES 2 LB/910 G

INGREDIENT	U.S.	METRIC
Sugar	1 lb 8 oz	680 g
Water	8 oz	230 g

Combine the sugar and water in a heavy-bottomed saucepan and bring to a boil over medium heat, stirring to dissolve the sugar. Boil without stirring until the mixture reaches 234°F/112°C. Use the glaze immediately.

GRAPEFRUIT MIRROR GLAZE

MAKES 1 LB/450 G

INGREDIENT	U.S.	METRIC
Gelatin, granulated	½ oz	14 g
Grapefruit juice, cold	1 lb	450 g

1. Bloom the gelatin in the grapefruit juice in a stainless-steel bowl. Set the bowl over a pan of simmering water and stir to dissolve the gelatin.
2. Cool the glaze to 70°F/21°C before using. Strain if desired.

VARIATION

For orange mirror glaze, replace the grapefruit juice with orange juice.

MANGO MIRROR GLAZE

MAKES 2 LB 4 OZ/1.02 KG (ENOUGH FOR SIX 8-IN/20-CM CHARLOTTES)

INGREDIENT	U.S.	METRIC
Mango purée	1 lb	450 g
Hero Gel	1 lb	450 g
Water	4 oz	110 g

1. Combine the mango purée, gel, and water in a saucepot. Heat until dissolved.
2. Strain. Cool to 110°F/43°C.
3. Pour over chilled cakes and refrigerate for 20 minutes, then unmold.

VARIATIONS

2 lb/910 g fruit purée or juice combined with 8 sheets of bloomed gelatin may be applied to cakes and pastries as Mirror Glaze.

Other fruit purées, such as passion fruit, may be substituted for the mango purée.

CHOCOLATE MIRROR GLAZE

MAKES 1 LB 4 OZ/570 G (ENOUGH FOR ABOUT 20 DOMES)

INGREDIENT	U.S.	METRIC
Gelatin, sheet	5	5
Sugar	9 oz	230 g
Water	5 oz	140 g
Dutch-process cocoa powder	2¾ oz	80 g
Crème fraîche	3 oz	90 g
Dark chocolate, 64%, finely chopped	2 oz	60 g

1. Bloom the gelatin in cold water until softened, about 5 minutes. Drain.

2. Bring the sugar, water, cocoa powder, and crème fraîche to a boil in a saucepot, stirring constantly until the sugar dissolves.

3. Pour the boiling mixture over the chocolate. Stir with a wooden spoon until the chocolate is completely melted.

4. Melt the gelatin in a bowl over barely simmering water.

5. Add approximately 1 oz/30 g of the chocolate mixture to the melted gelatin. Temper the chocolate-gelatin mixture into the remaining chocolate mixture.

6. Cool to room temperature. Refrigerate until ready to use. Reheat glaze to 120°F/49°C to use.

GREEN MIRROR GLAZE

YIELD: 6 OZ/170 G

INGREDIENT	U.S.	METRIC
Mirror Glaze (page 491)	6 oz	170 g
Green food coloring	As needed	As needed

1. Smooth out mirror glaze until no air bubbles remain.

2. Add food coloring as desired.

GREEN TEA GLAZE

YIELD: 1 LB 3½ OZ/550 G

INGREDIENT	U.S.	METRIC
Gelatin sheets	4½	4½
Sugar	6¼ oz	180 g
Glucose syrup	1¼ oz	40 g
Heavy cream	6¼ oz	180 g
Water	5¼ oz	150 g
Cornstarch	½ oz	14 g
Matcha green tea powder	¾ oz	20 g

1. Bloom the gelatin in cold water until softened, about 5 minutes. Drain.

2. Cook the sugar and glucose to 300°F/149°C.

3. Add the cream and 4 oz/110 g of the water to the sugar mixture over low heat, stirring with a wooden spoon.

4. Make a slurry with the cornstarch, green tea powder, and the remaining water. Add to the sugar mixture and boil for 1 minute.

5. Add the bloomed gelatin, off the heat. Stir slowly until the gelatin is dissolved.

6. Cool to room temperature. Refrigerate until ready to use. Reheat glaze to 120°F/49°C to use.

WHITE SAUCE

MAKES 8 FL OZ/240 ML

INGREDIENT	U.S.	METRIC
Sour cream	8 oz	230 g
Confectioners' sugar	¾ oz	20 g
Vanilla extract	1½ tsp	7.5 mL
Heavy cream	As needed	As needed

1. Combine the sour cream, confectioners' sugar, and vanilla extract in a medium bowl.

2. Stir in enough heavy cream to make a honey consistency.

3. Store in an airtight container, under refrigeration, until needed.

VANILLA SAUCE

MAKES 3 LB 2 OZ/1.42 KG

INGREDIENT	U.S.	METRIC
Milk	1 lb	450 g
Heavy cream	1 lb	450 g
Salt	1 tsp	6 g
Sugar	8 oz	230 g
Egg yolks	10 oz	280 g
Vanilla extract	1 tbsp	15 mL

1. Combine the milk, cream, salt, and 4 oz/110 g of the sugar in a nonreactive saucepan and bring to a boil, stirring to dissolve the sugar.

2. Meanwhile, blend the egg yolks with the remaining sugar, using a whisk.

3. Temper the egg yolks by gradually adding one-third of the hot milk, whisking constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and continue cooking until the mixture thickens enough to coat the back of a spoon.

4. Strain the sauce into a bain-marie and chill in an ice water bath. Stir in the vanilla extract.

5. Stir the sauce occasionally to ensure quick and even cooling. Cool to 40°F/4°C.

6. Cover tightly with plastic wrap and store under refrigeration.

VARIATIONS

CINNAMON SAUCE *Add 1 cinnamon stick to the milk mixture and bring to a boil. Remove from the heat, cover, and steep for 5 to 10 minutes. Strain into a clean saucepan, bring back to a boil, and proceed as directed above in step 2.*

COFFEE SAUCE *Add ½ oz/14 g coarsely ground coffee beans to the milk mixture and bring to a boil. Remove from the heat, cover, and steep for 5 to 10 minutes. Strain into a clean saucepan, bring back to a boil, and proceed as directed above in step 2.*

LEMON SAUCE *Add ½ oz/14 g grated lemon zest to the milk mixture and bring to a boil. Remove from the heat, cover, and steep for 5 to 10 minutes. Strain into a clean saucepan, bring back to a boil, and proceed as directed above in step 2.*

PEANUT BUTTER SAUCE *Add 4 oz/110 g creamy peanut butter to 1 lb/450 g Vanilla Sauce. Blend using an immersion blender, cover, and chill.*

SABAYON

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Egg yolks	12 oz	340 g
Sugar	12 oz	340 g
White wine	12 oz	340 g

1. Combine the egg yolks, sugar, and wine in the bowl of a mixer and whip together until thoroughly blended. Place the bowl over simmering water and heat, whisking constantly, until the mixture is thickened and very foamy and has reached 180°F/82°C.

2. Transfer the bowl to the mixer and whip with the whip attachment on high speed until cool.

3. Transfer the sabayon to a container and cover it with plastic wrap placed directly against the surface to prevent a skin from forming. Sabayon may be served warm or at room temperature.

CHEF'S NOTE

If desired, whip 1 lb 8 oz/680 g of heavy cream to medium peaks and fold into the cooled sabayon.

VARIATIONS

BOURBON SAUCE *Substitute bourbon for the white wine.*

CALVADOS SABAYON *Substitute Calvados for the white wine.*

CHAMPAGNE SABAYON *Substitute Champagne for the white wine.*

FRAMBOISE SABAYON *Substitute framboise for the white wine.*

HONEY SABAYON *Substitute honey for the sugar.*

ZABAGLIONE *Substitute sweet Marsala for the white wine.*

RASPBERRY SABAYON

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Egg yolks	9 oz	260 g
Sugar	9 oz	260 g
Raspberry liqueur	6 oz	170 g
Heavy cream	12 oz	340 g

1. Combine the egg yolks, sugar, and liqueur in the bowl of a mixer and whisk until thoroughly blended. Place the bowl over simmering water and whisk constantly until the mixture is thickened and very foamy and has reached approximately 180°F/82°C.

2. Transfer the bowl to the mixer and whip with the whip attachment on high speed until cool.

3. Whip the cream to soft peaks and gently fold into the sabayon.

4. Serve immediately.

CALVADOS SABAYON SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Egg yolks	8 oz	230 g
Sugar	8 oz	230 g
Calvados or other apple brandy	5½ oz	160 g
Heavy cream	8 oz	230 g

1. Combine the egg yolks, sugar, and Calvados in the bowl of a mixer and whisk until thoroughly blended. Place the bowl over simmering water and heat, whisking constantly, until the mixture is thickened and very foamy and has reached approximately 180°F/82°C.
2. Transfer the bowl to a mixer fitted with the whip attachment and whip on high speed until cool.
3. Whip the heavy cream to soft peaks and fold into the sabayon.
4. Serve immediately.

HOT FUDGE SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Bittersweet chocolate, melted	13½ oz	380 g
Cocoa powder, sifted	3 oz	90 g
Water	11 oz	310 g
Butter	7 oz	200 g
Sugar	13 oz	370 g
Light corn syrup	4½ oz	130 g
Salt	½ tsp	3 g
Vanilla extract	1 tbsp	15 mL

1. Place the chocolate, cocoa powder, and water in a saucepan over low heat and stir gently until fully combined. Add the butter, sugar, corn syrup, and salt and simmer over medium heat until thick, about 5 minutes.
2. Remove from the heat and add the vanilla extract.
3. Serve warm.

CHOCOLATE FUDGE SAUCE

MAKES 2 LB/910 G

INGREDIENT	U.S.	METRIC
Bittersweet chocolate, finely chopped	6 oz	170 g
Butter	2½ oz	70 g
Water	9 oz	260 g
Sugar	8 oz	230 g
Light corn syrup	5½ oz	160 g
Brandy	1 oz	28 g

1. Melt the chocolate and butter in a stainless-steel bowl over barely simmering water, stirring gently to combine.

2. Stir in the water. Stir in the sugar and corn syrup.

3. Transfer the mixture to a saucepan and simmer over low heat until the sugar has melted and all the ingredients are thoroughly combined, about 5 minutes.

4. Remove from the heat and cool slightly. Stir in the brandy.

5. Serve warm.

CHOCOLATE SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Sugar	10 oz	280 g
Water	1 lb	450 g
Light corn syrup	4½ oz	130 g
Cocoa powder, sifted	4 oz	110 g
Bittersweet chocolate, melted	1 lb	450 g

1. Combine the sugar, water, and corn syrup in a heavy-bottomed saucepan and bring to a boil over medium-high heat. Remove from the heat.

2. Place the cocoa powder in a bowl and add enough of the hot sugar syrup to make a paste, stirring until smooth. Gradually add the remaining syrup and mix until fully incorporated.

3. Add the melted chocolate and blend until fully incorporated.

4. Strain through a fine-mesh sieve.

5. Serve warm or chilled.

SMOKED MILK CHOCOLATE CARAMEL SAUCE

MAKES 2 LB 6 OZ/1.08 KG

INGREDIENT	U.S.	METRIC
Sugar	7 oz	200 g
Water	2 oz	60 g
Glucose syrup	5 oz	140 g
Butter	1 oz	30 g
Vanilla bean, seeds only	1	1
Salt	Pinch	Pinch
Heavy cream, warm	1 lb 3 oz	540 g
Milk chocolate	4 oz	110 g
Wood chips	As needed	As needed

1. Combine the sugar and water in a large nonreactive saucepot and bring to a simmer over medium heat.

2. Add the glucose and cook over high heat, without stirring, until a medium caramel color is achieved.

3. Remove from the heat and whisk in the butter, vanilla bean seeds, and salt. Whisk the heavy cream into the mixture very slowly.

4. Add the milk chocolate and stir until melted and fully combined.

5. Place the sauce in a 2-qt/1.92-mL container, and cover.

6. When ready to smoke, place the amount of sauce needed in a metal bowl. Pan-smoke the sauce for 4 to 5 minutes, or until the sauce develops sufficient smoky flavor.

CARAMEL AND COFFEE SAUCE

MAKES 12 OZ/340 G

INGREDIENT	U.S.	METRIC
Heavy cream	6 oz	170 g
Coffee beans, coarsely chopped	½ tsp	2 g
Sugar	2¾ oz	80 g
Glucosesyrup	2 oz	60 g
Water	¾ oz	20 g
Butter	½ oz	14 g
Salt	Pinch	Pinch

1. Place the heavy cream in a small nonreactive saucepot and bring to a boil with the coffee beans. Remove from the heat and steep for at least 30 minutes or until the color and flavor have fully developed. Strain through a fine-mesh sieve.

2. Place the sugar, glucose and water in a large nonreactive saucepot and cook on high heat to a very light brown color. Immediately remove from the heat and add the butter and salt all at once. Stir to incorporate.

3. Return to low heat and gradually add the coffee-cream mixture while whisking.

4. Turn up the heat to high and bring mixture to a quick boil. Strain through a fine-mesh sieve and cool to room temperature, 70°F/21°C. Reserve in the refrigerator.

CHEF'S NOTES

The viscosity may have to be adjusted the next day by adding a little water. The sauce should be served at room temperature, 70°F/21°C.

RASPBERRY COULIS

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Raspberries (fresh or frozen)	2 lb	910 g
Sugar	1 lb	450 g
Lemon juice	2 oz	60 g

1. Combine the raspberries, 8 oz/230 g of the sugar, and 1 oz/30 g of the lemon juice in a saucepan over medium heat. Simmer, stirring, until the sugar has dissolved, about 10 minutes.

2. Strain the coulis through a fine-mesh sieve.

3. Adjust the flavor balance with sugar and/or lemon juice, if necessary.

CHEF'S NOTE

If desired, add a slurry made of 2 oz/60 g water and 1 oz/30 g cornstarch per 2 lb/910 g of coulis to the sauce to thicken it. Bring the coulis to a boil, gradually whisk in the slurry, and bring back to a boil. Cool.

VARIATIONS

KIWI COULIS *Substitute kiwi purée for the raspberries.*

MANGO COULIS *Substitute chopped mango for the raspberries.*

STRAWBERRY COULIS *Substitute fresh or frozen strawberries for the raspberries.*

PAPAYA COULIS

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Papaya, peeled, seeded, and cubed	2	2
Pineapple, peeled, cored and cubed	½	½
Coconut milk	4 oz	110 g
White crème de cacao	1 oz	30 g
Rum	½ oz	14 g
Orange juice	8 oz	230 g
Lemon juice	4 oz	110 g
Lime juice	2 oz	60 g
Lemongrass, chopped	1	1
Sugar	3 to 6 oz	90 to 170 g

1. Purée the papaya and pineapple in a food processor.

2. Transfer the purée to a saucepan, add the coconut milk, crème de cacao, rum, orange, lemon, and lime juices, lemongrass, and 3 oz/90 g sugar and mix well. Bring to a simmer and remove from the heat.

3. Strain through a fine-mesh sieve.

4. Add more sugar, if necessary.

5. Cover and store in the refrigerator until ready to use. Serve warm or cold.

BLUEBERRY COMPOTE

MAKES 2 CUPS/480 ML

INGREDIENT	U.S.	METRIC
Blueberries	1 lb 4 oz	570 g
Water	As needed	As needed
Sugar	As needed	As needed
Lemon, zested	1	1
Cornstarch slurry	As needed	As needed

1. Combine half of the blueberries in a medium nonreactive saucepot and add just enough water to cover them. Cook over medium heat until berries are soft, about 10 minutes.

2. Purée in a blender until smooth. Add sugar to taste and then add the lemon zest. Strain through a fine-mesh sieve and cool completely, about 30 minutes.

3. Adjust the consistency if needed with the cornstarch slurry by bringing the sauce to a boil and whisking in the slurry. Bring the sauce to a simmer and reduce to the desired consistency. Strain and cool over an ice bath. Store in an airtight container under refrigerator until needed.

4. Before service, fold in the remaining berries.

BLUEBERRY BLISS

MAKES 10 OZ/280 G

INGREDIENT	U.S.	METRIC
Blueberries, IQF wild	5¼ oz	150 g
Sugar	1 oz	30 g
Fresh blueberries	5¼ oz	150 g
Blueberry juice	1¾ oz	50 g
Mirror Glaze (page 491)	1¾ oz	50 g

1. Combine the frozen blueberries and the sugar in a small bowl. Cover the bowl with plastic wrap, place over a hot water bath on a low flame, and steam for 15 minutes.

2. Remove the pan from the heat. Drain the blueberries and reserve the juice. Place the blueberries into a blender and blend until smooth. Add the pureed blueberries to the reserved juice.

3. Combine the fresh blueberries with the reserved juice in a small pot.

4. Bring the mixture to a simmer over low to medium heat and simmer for 5 minutes or until the liquid thickens. Do not let the blueberries break down.

5. Strain the berries and reserve the thickened juice. Place the blueberries in a small bowl and gently fold in the mirror glaze. Chill over ice and refrigerate.

MINT SAUCE I

MAKES 1 CUP/240 ML

INGREDIENT	U.S.	METRIC
Fresh mint	4 bunches	4 bunches
Simple Syrup (page 1079)	8 oz	270 g
Ultratex 3	As needed	As needed

1. Prepare a large pot of boiling water. Prepare an ice bath.
2. Blanch the mint for 20 seconds and shock in the ice water.
3. Drain the mint, place in a blender, and blend until smooth.
4. Add simply syrup gradually to make a smooth purée.
5. Thicken as needed with the Ultratex 3.

MINT SAUCE II

MAKES 4½ OZ/130 G

INGREDIENT	U.S.	METRIC
Fresh mint leaves, washed	½ oz	14 g
Water	4 oz	110 g
Lime juice	1 tsp	5 mL
Mirror Glaze (page 491)	5 oz	140 g

1. Bring a small pot of water to a boil. Drop the mint leaves into the boiling water and blanch for 5 seconds. Immediately drain and shock in an ice bath.
2. Place the mint leaves into a blender with the water and lime juice. Blend until smooth.
3. In a small bowl, smooth out the mirror glaze so there are no lumps present.
4. Add a small amount of the mint purée to the mirror glaze at a time. This will prevent lumps from occurring. Make sure the mixture is homogeneous and smooth before adding more mint mixture to the glaze.
5. Refrigerate until ready to use.

PINEAPPLE-SAGE COULIS

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Pineapple, medium	1	1
Coconut milk	4 oz	110 g
Papaya, peeled and cubed	4 oz	110 g
Sugar	3 to 5 oz	90 to 140 g
Malibu rum	1 oz	30 g
Sage leaves	6 to 8	6 to 8
Lime juice	1 oz	30 g
Lemon juice	2 oz	60 g

1. Peel and core the pineapple and cut into pieces. Place the pineapple in a nonreactive saucepan with the coconut milk, papaya, 3 oz/90 g of the sugar, and the rum. Bring to a simmer and add the sage leaves. Cover, remove from the heat, and cool thoroughly.

2. Remove and discard the sage leaves. Transfer the pineapple mixture to a food processor and purée. Strain through a fine-mesh sieve.

3. Stir in the lime and lemon juices, blending thoroughly.

4. Add more sugar, if necessary.

PLUM RÖSTER

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Plums, pitted and sliced	3 lb	1.36 kg
Sugar	5 oz	140 g
Water	6 oz	170 g
Red wine (Burgundy)	6 oz	170 g
Cinnamon sticks	2	2

1. Combine all the ingredients in a saucepan, bring to a simmer over medium heat, and simmer until the plums are tender, about 30 minutes.

2. Remove the cinnamon sticks. Pass the mixture through a food mill or press through a fine-mesh sieve, working as much of the pulp through the mesh as possible.

3. Return the mixture to the saucepan and simmer to reduce by half.

4. Serve warm.

RASPBERRY SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Raspberry purée	1 lb	450 g
Sugar	8 oz	230 g
Water	9 oz	260 g
Tapioca starch	½ oz	14 g

1. Combine the raspberry purée, sugar, and 8 oz/230 g of the water in a saucepan and bring to a boil.

2. Meanwhile, make a slurry with the tapioca starch and the remaining 1 oz/30 g water.

3. Slowly whisk the slurry into the boiling purée. Return the mixture to a boil, stirring constantly with a whisk until thickened.

4. Strain the sauce through a fine-mesh strainer. Cool over an ice water bath.

5. The sauce is ready to use immediately, or may be covered and stored in the refrigerator until needed.

PASSION FRUIT SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Passion fruit purée	1 lb 5 oz	600 g
Sugar	4 to 8 oz	110 to 230 g
Water	1 oz	30 g
Cornstarch	½ oz	14 g
Lemon juice (optional)	1 oz	30 g

1. Combine the fruit purée and 4 oz/110 g of the sugar in a saucepan and bring to a boil over medium heat.

2. Meanwhile, make a slurry with the water and cornstarch. Slowly whisk the slurry into the boiling purée and bring back to a boil, whisking until thickened. Remove from the heat.

3. Adjust the flavor with more sugar and the lemon juice as necessary. Cool over an ice water bath. The sauce is ready to use immediately, or may be covered and stored in the refrigerator until needed.

VARIATIONS

COCONUT SAUCE *Substitute coconut purée for the passion fruit purée.*

PAPAYA SAUCE *Substitute papaya purée for the passion fruit purée.*

RASPBERRY SAUCE II *Substitute raspberry purée for the passion fruit purée.*

CITRUS SAUCE

MAKES TEN TO TWELVE ½-OZ/14-G SERVINGS

INGREDIENT	U.S.	METRIC
Orange juice	12 oz	340 g
Vanilla bean, split and scraped	1	1
Cinnamon sticks	2	2
Sugar	1½ oz	40 g
Butter	3 oz	90 g
Orange suprêmes	36	36

1. Combine the orange juice, vanilla bean seeds and pod, cinnamon sticks, and sugar in a saucepot and bring to a boil until the liquid reduces by half, about 10 minutes. Whisk the liquid constantly during the reduction process.

2. Remove from the heat and strain into a clean pot. Thicken the sauce by vigorously whisking in the butter. Add the orange suprêmes.

3. Reserve the sauce warm or reheat at service so it is served warm.

ORANGE SAUCE

MAKES 1 LB/450 G

INGREDIENT	U.S.	METRIC
Simple syrup (1 part water to ½ part sugar)	3½ oz	100 g
Saffron	Pinch	Pinch
Mirror Glaze (page 491)	8 oz	230 g
Orange juice concentrate	5¼ oz	150 g

1. Bring the simple syrup to a boil and add the saffron.
2. Let set for an hour and cool in an ice bath if it is still warm.
3. Whisk slowly into the mirror glaze until smooth and then whisk in the orange concentrate.

HOT STRAWBERRY SYRUP

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Strawberries, whole (fresh or frozen)	3 lb	1.36 kg
Sugar	1 lb	450 g
Water	12 oz	340 g
Vanilla bean, seeds only	1	1
Lemon juice	4 oz	110 g

1. If using frozen strawberries, thaw slightly. Slice the strawberries.
2. Combine the strawberries, sugar, and water in a saucepan, bring to a simmer over medium heat, and simmer until the strawberries are soft, about 15 minutes.
3. Strain through a fine-mesh sieve, pressing against the solids with the back of a ladle.
4. Pour the liquid into a saucepan, add the vanilla bean seeds and lemon juice, and simmer until reduced by half or to the consistency of a syrup, about 30 minutes.
5. Serve hot or cover and refrigerate until ready to reheat and use.

SAVARIN SYRUP

MAKES 5 LB 6 OZ/2.44 KG

INGREDIENT	U.S.	METRIC
Pineapple (see Chef's Notes)	1	1
Water	3 lb	1.36 kg
Orange juice	1 lb	450 g
Vanilla bean, split and scraped	1	1
Cinnamon sticks	2	2
Black peppercorns	10	10
Sugar	1 lb 2 oz	510 g
Neutral gel (see Chef's Notes)	4 oz	110 g

1. Clean the pineapple: Cut off the top and bottom. Stand the pineapple straight up and trim the skin top to bottom with a serrated knife. Remove any "eyes." Turn the pineapple on its side and, using a large slicer, round and cut an even cylinder. Reserve the cylinder for roasting; use all the trim for the syrup.

2. Combine the pineapple skin and trim, water, orange juice, vanilla bean seeds and pod, cinnamon sticks, peppercorns, and sugar in a nonreactive saucepan and boil for 10 minutes. Let cool to room temperature. Chill overnight.

3. The next day, strain the syrup through cheesecloth and squeeze out as much flavor as possible from the solids. Store covered in the refrigerator.

4. To use for soaking, bring the syrup to a boil. Dunk thawed savarins in very hot, but not boiling, syrup, until the savarin has absorbed as much liquid as it can without falling apart. (You can dunk up to 5 savarins at a time.)

5. Remove the soaked savarin from the liquid with a slotted spoon. Let drain on a cooling rack over a sheet pan and refrigerate.

6. To use for glazing, combine the neutral gel with just enough of the savarin syrup to loosen the gel. Dunk the savarin in the glaze in an éclair fashion. Keep refrigerated.

CHEF'S NOTES

Reserve the pineapple for roasting the next day. The gel is not used in the syrup, but as a glaze after the savarin has been soaked.

CARAMEL SIMPLE SYRUP

MAKES 1 LB/450 G

INGREDIENT	U.S.	METRIC
Sugar	8 oz	230 g
Lemon juice	3 drops	3 drops
Water, warm	8 oz	230 g

1. Combine the sugar and lemon juice in a medium saucepot and cook to a deep amber color, stirring gently.
2. Add the warm water slowly while stirring constantly with a whisk. Stir until fully combined.
3. Cover and store in the refrigerator.

BANANA SYRUP

MAKES 10 OZ/280 G

INGREDIENT	U.S.	METRIC
Mineral water	8 oz	230 g
Sugar	2 oz	60 g
Bananas, fully ripe, sliced ½-in/1-cm thick	1	1

1. Combine all the ingredients in a saucepot, bring to a boil, then reduce the heat to low to simmer for 10 minutes.
2. Strain through a fine-mesh sieve and let cool to room temperature. Cover and store in the refrigerator until use.

BLOOD ORANGE SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Blood orange juice	1 lb 4 oz	570 g
White wine	6 oz	170 g
Sugar	6½ oz	180 g
Arrowroot	1 oz	30 g
Water	1½ oz	40 g
Lemon juice	1 oz	30 g

1. Combine the blood orange juice, wine, and sugar in a heavy-bottomed saucepan. Bring to a boil over medium heat, stirring occasionally to dissolve the sugar. Remove from the heat.

2. Make a slurry with the arrowroot and water. Gradually whisk the slurry into the orange juice mixture and return to a boil, whisking constantly. Immediately remove from the heat.

3. Stir in the lemon juice. Strain through a fine-mesh sieve. Cool and refrigerate until needed.

BERGAMOT POSSET

MAKES 3 LB 4 OZ/1.47 KG

INGREDIENT	U.S.	METRIC
Orange juice	8½ oz	240 g
Heavy cream	2 lb 6¾ oz	1.01 kg
Sugar	12¼ oz	350 g

1. Reduce the orange juice by half in a small pan over low heat.

2. Add half of the sugar to the orange juice reduction and the remaining sugar to the heavy cream.

3. Bring the cream and the orange reduction to a boil separately.

4. Pour the cream over the orange reduction and stir with a spatula until homogeneous.

5. Portion into bowls immediately.

STRAWBERRY TARRAGON SAUCE

MAKES 9 OZ/260G

INGREDIENT	U.S.	METRIC
Strawberry purée	6 oz	170 g
Sugar	1½ oz	40 g
Modified starch	½ tsp	1 g
Water	2 oz	60 g
Tarragon, chopped	1½ tbsp	5 g

1. Place the purée and sugar in a medium saucepot and bring to a boil over high heat. Meanwhile, make a slurry with the starch and water.

2. Add the slurry to the purée, whisking constantly. Bring the mixture back to a boil for 15 seconds.

3. Strain through a fine-mesh strainer and cool in a nice water bath.

4. When completely cool, add the tarragon. Refrigerate until needed.

LIME RICKEY SAUCE

MAKES 64 FL OZ/1.92 L

INGREDIENT	U.S.	METRIC
Sugar	1 lb 5 oz	600 g
Lime juice	10½ oz	300 g
Light rum	2 lb	910 g

1. Combine all of the ingredients in a saucepan and bring to a boil over medium heat, stirring to dissolve the sugar. Boil without stirring until the sauce reaches 220°F/104°C.

2. Remove from the heat and cool completely. Serve chilled or at room temperature.

CHUNKY STRAWBERRY SAUCE

MAKES 20 FL OZ/600 ML

INGREDIENT	U.S.	METRIC
Strawberries	12 oz	340 g
Sugar	7 to 10 oz	200 to 290 g
Water	9 oz	260 g
Lemon juice	½ oz	14 g
Cornstarch	¾ oz	20 g
Orange liqueur	2 oz	60 g

1. Chop 12 of the strawberries into ½-in/1-cm cubes. Reserve.

2. Combine the remaining strawberries, 7 oz/200 g sugar, 8 oz/230 g of the water, and the lemon juice in a nonreactive saucepan and bring to a boil. Simmer for 2 to 3 minutes until the strawberries are heated through and just starting to break down.

3. Remove from the heat and purée using an immersion blender. Return to the heat and bring back to a boil. Taste the sauce and add sugar if necessary.

4. Meanwhile, make a slurry with the cornstarch and the remaining 1 oz/30 g water. Gradually whisk the slurry into the sauce and bring back to a boil, whisking until the sauce thickens enough to coat the back of a spoon. Blend in the orange liqueur.

5. Cool the sauce over an ice water bath. Refrigerate until needed.

6. Just before serving, fold in the reserved chopped strawberries.

CHEF'S NOTE

Depending on how ripe the strawberries are, the amount of sugar may need to be adjusted.

WHITE PEAR AND HUCKLEBERRY SAUCE

MAKES 12 OZ/340 G

INGREDIENT	U.S.	METRIC
Poire William (brandy)	3½ oz	100 g
Water	½ oz	14 g
Dried huckleberries	1 oz	30 g
Pear purée	6 oz	170 g
Sugar	1½ oz	40 g
Lemon juice	1½ tsp	5 mL
Modified starch	1 tsp	2 g

1. Combine the Poire William and water and soak the huckleberries overnight.
2. Strain through a fine-mesh sieve. Reserve the liquid and huckleberries separately.
3. Combine the pear purée, sugar, lemon juice, and all but 1 oz/30 g of the soaking liquid in a saucepot. Bring to a boil over medium-high heat.
4. Make a slurry with the starch and the reserved liquid. Gradually add to the boiling mixture, stirring constantly.
5. Bring the mixture to a rapid boil again until it thickens. Remove from heat and let cool to room temperature.
6. Strain the sauce and add the reserved huckleberries. Refrigerate until needed.

COCONUT GINGER SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Coconut milk	1 lb 8 oz	680 g
Papaya, small dice	1	1
Lemongrass stalks, finely chopped	2	2
Ginger, peeled and thinly sliced	2 oz	60 g
Malibu rum	2 oz	60 g
Sugar	3 to 6 oz	90 to 170 g
Lemon juice	1 to 2 oz	30 to 60 g

1. Combine the coconut milk and papaya in a saucepan and simmer over low heat until the papaya is tender, about 15 minutes.

2. Transfer to a food processor and purée. Strain through a fine-mesh sieve and return to the saucepan.

3. Add the lemongrass, ginger, and rum and bring to a simmer. Remove from the heat, cover, and steep overnight under refrigeration.

4. Strain the sauce. Add sugar and lemon juice as needed and stir with a whisk to combine. Refrigerate until needed.

LEMON VERBENA SAUCE

MAKES 24 FL OZ/720 ML

INGREDIENT	U.S.	METRIC
Large lemon verbena leaves	12	12
Water	14 oz	400 g
Lemon juice	6 oz	170 g
Glucose syrup	1 oz	30 g
Sugar	2 oz	60 g
Lemongrass stalk, chopped	1	1
Cornstarch	½ oz	14 g
White wine	1 oz	30 g

1. Reserve 4 of the lemon verbena leaves. Combine the remaining 8 leaves, the water, lemon juice, glucose, sugar, and lemongrass in a saucepan and bring to a simmer. Remove from the heat, cover, and steep for 10 minutes.

2. Cool, cover, and refrigerate overnight.

3. Strain through a fine-mesh strainer into a saucepan and bring to a boil.

4. Make a slurry with the cornstarch and white wine. Gradually whisk the slurry into the sauce and bring back to a boil, whisking until the sauce thickens enough to coat the back of a spoon.

5. Allow the sauce to cool to room temperature.

6. Just before serving, mince the reserved verbena leaves and add to the sauce.

BURNT ORANGE SAUCE

MAKES 48 FL OZ/1.44 ML

INGREDIENT	U.S.	METRIC
Oranges	1½	1½
Milk	2 lb or more	910 g or more
Sugar	8 oz	230 g
Egg yolks	6 oz	170 g
Vanilla extract	1 tsp	5 mL

1. Place the oranges on a sheet pan and roast in a 375°F/191°C oven until golden brown. Cut the oranges into quarters.

2. Bring the milk to a boil and add the roasted oranges. Chill over an ice water bath, cover, and refrigerate for 24 hours.

3. Strain the milk and add enough fresh milk to bring it back to 2 lb/910 g.

4. Combine the milk with 4 oz/110 g of the sugar in a saucepan and bring to a boil, stirring to dissolve the sugar.

5. Whisk together the egg yolks and the remaining sugar.

6. Temper the egg yolks by gradually adding one-third of the hot milk, whisking constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and continue cooking until the mixture thickens enough to coat the back of a spoon.

7. Strain the sauce into a metal container, stir in the vanilla, and chill in an ice water bath.

8. Cover with plastic wrap and store under refrigeration.

FRUIT SALSA

MAKES 1 LB 8 OZ/680 G

INGREDIENT	U.S.	METRIC
Papaya, small dice	5 oz	140 g
Mango, small dice	5 oz	140 g
Honeydew melon, small dice	5 oz	140 g
Strawberries, small dice	5 oz	140 g
Passion fruit juice	1 oz	30 g
Mint, finely chopped	1 tbsp	9 g
Amaretto liqueur	3 oz	90 g
Orange juice	8 oz	230 g
Sugar	3 oz	90 g

1. Combine the fruits, passion fruit juice, and mint. Set aside to macerate.
2. Combine the Amaretto, orange juice, and sugar and bring to a boil. Boil until reduced to 7 oz/200 g. Cool to room temperature.
3. Gently blend the reduced liquid into the fruit.
4. Refrigerate until needed.

ORANGE MARINADE

MAKES 1 LB/450 G

INGREDIENT	U.S.	METRIC
Orange juice	4 oz	110 g
Honey	8 oz	230 g
Orange liqueur	4 oz	110 g

1. Combine the orange juice and honey in a saucepan and bring to a simmer.
2. Remove from the heat and stir in the orange liqueur. Cool to room temperature.
3. Store, tightly covered, in the refrigerator.

FRUIT SOAKER

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Port, tawny	8 oz	230 g
Orange liqueur	4 oz	110 g
Raspberry liqueur	4 oz	110 g
Sugar	1 oz	30 g
Seasonal fruit, assorted	2 lb 8 oz	1.13 kg

1. Combine the port, orange and raspberry liqueurs, and sugar in a saucepan and bring to a boil over medium heat, stirring to dissolve the sugar.
2. Cool to room temperature.
3. Clean, peel, and slice the fruit as needed. Pour the port mixture over the fruit, cover, and allow to macerate overnight, tightly covered, under refrigeration.

RAISIN SAUCE

MAKES 24 FL OZ/720 ML

INGREDIENT	U.S.	METRIC
Raisins or currants	12 oz	340 g
Apple cider	4 lb	1.81 kg
Light brown sugar	4 oz	110 g
Ground cinnamon	½ tsp	1 g
Ground nutmeg	¼ tsp	½ g
Vanilla bean, seeds only	2	2
Apple brandy	4 oz	110 g

1. Combine the raisins and 8 oz/230 g of the cider in a saucepan and bring to a simmer over low heat. Remove from the heat and allow the raisins to plump for at least 30 minutes.
2. Combine the remaining 3 lb 8 oz/1.59 kg apple cider, the sugar, cinnamon, nutmeg, and vanilla bean seeds in a saucepan. Bring to a simmer and reduce by two-thirds, about 30 minutes.
3. Drain the raisins.
4. Remove the pan from the heat and stir in the apple brandy and drained raisins.
5. Serve warm or chilled.

DRIED CHERRY SAUCE

MAKES 1 LB 10 OZ/740 G

INGREDIENT	U.S.	METRIC
Sugar	3 oz	90 g
Red wine	13 oz	370 g
Water	6 oz	170 g
Orange juice	1 oz	30 g
Lemon juice	1 oz	30 g
Vanilla bean	1	1
Dried cherries	4 oz	110 g
Cornstarch	½ oz	14 g

1. Combine the sugar, 12 oz/340 g of the wine, the water, and orange and lemon juices in a saucepan. Split the vanilla bean, scrape the seeds into the pan, add the pod, and bring to a boil. Remove from the heat and add the cherries.

2. Refrigerate, covered, overnight.

3. Strain, reserving the cherries. Pour the sauce into a saucepan and bring to a boil.

4. Make a slurry with the cornstarch and the remaining 1 oz/30 g red wine. Gradually whisk the slurry into the sauce and bring back to a boil, whisking until the sauce thickens enough to coat the back of a spoon.

5. Cool to room temperature.

6. Add the reserved cherries and serve at once.

CANDIED CRANBERRY COMPOTE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Sugar	1 lb 12 oz	790 g
Water	1 lb 8 oz	680 g
Cranberries (fresh or frozen)	1 lb 14 oz	850 g
Orange juice	4 oz	110 g
Cinnamon sticks	1	1

1. Combine 1 lb 8 oz/680 g of the sugar and 12 oz/340 g of the water in a heavy-bottomed saucepan and bring to a simmer over medium-high heat, stirring until the sugar has dissolved.
2. Add the cranberries and poach until tender; do not allow the syrup to come to a boil. Remove from the heat and cool in the syrup.
3. Drain the cranberries and spread them on a parchment-lined sheet pan. Dry in a 200°F/93°C oven until they are just slightly sticky, about 1½ hours. Reserve.
4. Combine 6 oz/170 g of the candied cranberries with the orange juice, and the cinnamon stick in a saucepan and simmer over medium heat until the cranberries burst, about 20 minutes.
5. Remove the cinnamon stick and purèe the mixture. Gently stir in the remaining cranberries and add more sugar, if necessary. Store covered in the refrigerator.

FIG COMPOTE

MAKES 2 LB 8 OZ/1.13 KG

INGREDIENT	U.S.	METRIC
Dried figs	1 lb 3 oz	540 g
Raisins	9 oz	260 g
Vanilla bean, split and scraped, seeds only	1	1
Lemon juice	1 oz	30 g
Orange zest, grated	1	1
Honey	8½ oz	240 g
Ground cinnamon	1 tsp	2 g
Almonds, lightly toasted and finely chopped	4 oz	110 g
Port, tawny	3 oz	90 g

1. Chop the figs and raisins in a food processor until the fruits are approximately small dice.
2. Combine with the remaining ingredients.
3. Use immediately or cover and store in the refrigerator for later use.

POACHED APPLE COMPOTE

MAKES 1 LB /450 G

INGREDIENT	U.S.	METRIC
Honeycrisp apples	8 oz	230 g
Apple cider	12 oz	340 g
Cinnamon stick	1	1
Sugar	6 oz	170 g
Lemon	½	½
Gelatin	¼ oz	7 g

1. Cut the apples into small dice, place in a pot, and cover with the apple cider. Add the cinnamon stick, sugar, and lemon. Keep just below a simmer and poach until the apples are just tender, about 10 minutes.

2. Drain, discard the lemon, and reserve the apples. Reduce the poaching liquid to 8 oz/230 g.

3. Bloom the gelatin in cool water, drain, and melt in the reduced liquid. Cool slightly.

4. Fold in the apples.

5. The compote is ready to be used or served, or it may be covered and stored in the refrigerator for later use.

VARIATION: POACHED PEAR COMPOTE

REPLACE *the Honey Crisp Apples with an equal amount of any variety of pear providing that they are not too soft or overly ripe. Replace the apple cider with an equal amount of pear cider. Proceed with the method as directed above.*

BLUEBERRY COMPOTE

MAKES 1 LB 6 OZ/620 G

INGREDIENT	U.S.	METRIC
Blueberries (fresh or frozen)	1 lb	450 g
Sugar	5 oz	140 g
Rosemary	1 small sprig	1 small sprig
Lemon juice	1 oz	30 g
Lemon zest, grated	2 tsp	9 g
Gelatin, sheet (see step 3)	As needed	As needed

1. Combine 8 oz/230 g of the blueberries with the sugar, rosemary, lemon juice, and zest in a saucepot and cook, stirring occasionally, until the blueberries have just softened, 3 to 4 minutes.

2. Remove the rosemary sprig. Purée and strain. Add the remaining berries and weigh the mixture.

3. Multiply the weight of the berry mixture by 0.02 (2%) to determine the amount of gelatin needed. For example, 10 oz/280 g gross weight will require 0.2 oz gelatin.

4. Bloom the gelatin in cold water and melt over low heat. Add to the berries.

5. The compote is ready to be used or served, or may it be covered and stored in the refrigerator for later use.

BLACKBERRY SAUCE

MAKES 9½ OZ/270 G

INGREDIENT	U.S.	METRIC
Mirror Glaze (page 491)	5¼ oz	150 g
Blackberry purée	4¼ oz	120 g

1. Place the mirror glace in a small bowl and stir until there are no lumps present.

2. Gradually stir the blackberry purée into the mirror glace, add a small amount at a time. This will prevent lumps from occurring. Make sure the mixture is homogeneous and smooth before adding more of the purée to the mirror glaze.

3. Refrigerate until ready to use.

CRANBERRY SAUCE

MAKES 20 FL OZ/600 ML

INGREDIENT	U.S.	METRIC
Fresh cranberries	12 oz	340 g
Sugar	5 oz	140 g
Water	8 oz	230 g
Vanilla bean	1	1

1. Combine the cranberries, sugar, and water in a saucepan. Split the vanilla bean, scrape the seeds into the pan, add the pod, and bring to a boil over medium heat, whisking to break up the cranberries. Boil until the sauce has reduced slightly and thickened, about 5 minutes. Remove from the heat, remove the vanilla bean pod, and cool completely.

2. The sauce is ready to be used or served, or it may be covered and stored in the refrigerator for later use.

FRUIT SANGRIA SAUCE

MAKES 1½ QUARTS

INGREDIENT	US	METRIC
Water	5 oz	140 g
Sugar	8½ oz	240 g
Red wine	4½ oz	130 g
Orange juice	2⅔ oz	75 g
Cinnamon stick	1 each	1 each
Vanilla bean, split and scraped	1 each	1 each
Finely grated orange zest	1½ tsp	2 g
Grapefruit juice	4¾ oz	135 g
Apples, peeled, large dice	6½ oz	205 g
Pears, peeled, large dice	7 oz	195 g
Orange suprêmes	12 each	12 each
Strawberries, cored, halved	3 oz	85 g

1. In a medium saucepan over moderate heat, combine the water, sugar, wine, orange juice, cinnamon stick, vanilla bean, orange zest, grapefruit juice, apple, and pear. Bring to a simmer and poach the apple and pear until tender, about 10 minutes.

2. Add the orange and strawberry and simmer until the fruit is warmed through, about 1 minute.

3. Cool completely. Store the fruit in the poaching liquid until use.

CIDER BOURBON SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Apple cider	2 lb	910 g
Bourbon	2 oz	60 g
Arrowroot	1 oz	30 g

1. Combine 1 lb 12 oz/790 g of the cider with the bourbon in a saucepan and bring to a boil over medium heat.

2. Make a slurry with the arrowroot and the remaining 4 oz/110 g cider. Gradually whisk the slurry into the cider mixture and bring back to a boil, whisking constantly until thickened. Immediately remove from the heat.

3. Strain the sauce through a fine-mesh sieve. Cool.

4. The sauce is ready to be used or served, or it may be covered and stored in the refrigerator for later use.

FIG BUTTER

MAKES APPROXIMATELY 60 FL OZ/1.80 L

INGREDIENT	U.S.	METRIC
Black Mission figs	10 lb	4.54 kg
Sugar	7 lb	3.18 kg
Butter	1 lb	450 g
Vanilla bean, split and scraped	3	3

1. Trim the top and bottom off the figs.

2. Combine the figs and the remaining ingredients in a rondeau. Cook over medium heat until the figs completely break down, about 2 hours. Remove the vanilla bean pods.

3. Cool in an ice water bath and reserve in an airtight container under refrigeration.

APPLE BUTTER

MAKES 64 FL OZ/1.92L

INGREDIENT	U.S.	METRIC
Apples	7 lb	3.18 kg
Apple cider	1 lb 8 oz	680 g
Sugar	1 lb	450 g
Ground cardamom	1 tsp	2 g
Ground cinnamon	½ tsp	1 g
Lemon zest, grated	1 tsp	3 g
Salt	¼ tsp	1.5 g

1. Peel, core, and slice the apples. Combine with the apple cider in a large heavy-bottomed saucepan, cover, and bring to a simmer. Simmer until the apples are a soft pulp, about 30 minutes.

2. Pass the apple pulp through a food mill and transfer to a saucepan.

3. Add the sugar, spices, zest, and salt and simmer, stirring frequently, until very thick, about 2 hours.

4. Cool completely.

5. The butter is ready to be used or served, or it may be covered and stored in the refrigerator for later use.

VARIATIONS

MANGO BUTTER *Substitute mangoes for the apples and apple juice for the apple cider.*

NECTARINE BUTTER *Substitute nectarines for the apples and apple juice for the apple cider.*

PEACH BUTTER *Substitute peaches for the apples and peach juice or nectar for the apple cider.*

PEAR BUTTER *Substitute pears for the apples and pear juice or pear cider for the apple cider.*

PUMPKIN BUTTER

MAKES ABOUT 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Pumpkin	6 lb	2.72 kg
Sugar	2 lb	910 g
Butter	1 lb	450 g
Vanilla bean, split and scraped	1	1
Ground cloves	Pinch	Pinch

1. Cut the pumpkins into quarters and scoop out the seeds.

2. Place the quartered pumpkins cut side up on a sheet pan. Bake at 325°F/163°C until the flesh is tender, about 25 minutes.

3. When cool enough to handle, peel off the skin with a paring knife.

4. Place the pumpkin flesh in a large pot with the sugar, butter, vanilla bean seeds and pod, and cloves. Cook over medium-low heat, stirring occasionally, until the volume has reduced by half, about 2 hours. The pumpkin will completely break down and turn into a smooth paste. Remove the vanilla bean pod.

5. Cool the pumpkin butter in an ice water bath and reserve in an airtight container under refrigeration.

APPLE CUMIN BUTTER

MAKES 1 LB 2 OZ/510 G

INGREDIENT	U.S.	METRIC
Cumin seeds	½ tsp	1 g
Apple Superpomme	7 oz	200 g
Confectioners' sugar	6 oz	170 g
Apple cider	2½ oz	70 g
Butter, ½-in/1-cm cubes	2 oz	60 g
Vanilla powder	1 tbsp	10 g
Calvados	½ oz	14 g

1. Toast the cumin seeds in a small dry sauté pan until they are dark brown and their full flavor develops. Grind using a spice grinder.

2. Combine the cumin, Superpomme, sugar, cider, butter, and vanilla powder in a small saucepot and bring to a gentle simmer.

3. Simmer for 2 minutes, stirring constantly.

4. Pour into a plastic container and cool to room temperature, stirring occasionally to prevent a skin from forming.

5. Add the Calvados and refrigerate until use.

ORANGE VANILLA BEAN SAUCE

MAKES 16 FL OZ/480 ML

INGREDIENT	U.S.	METRIC
Orange juice	1 lb	450 g
White wine	8 oz	230 g
Sugar	4 oz	110 g
Cinnamon stick	1	1
Vanilla bean	1	1
Tapioca starch	½ oz	14 g
Water	1 oz	30 g
Orange liqueur	2 oz	60 g

1. Combine the orange juice, wine, sugar, and cinnamon stick in a saucepan. Split the vanilla bean, scrape in the seeds, add the pod, and bring to a simmer. Stir to dissolve the sugar. Simmer for 15 minutes to reduce and blend the flavors.

2. Make a slurry with the tapioca starch and water. Gradually whisk the slurry into the sauce and cook, whisking, until the sauce thickens enough to coat the back of a spoon.

3. Remove from the heat, strain through a fine-mesh strainer, and add the orange liqueur. Cool and serve.

MAPLE SAUCE

MAKES 1 LB/450 G

INGREDIENT	U.S.	METRIC
Maple syrup	1 lb	450 g
Vanilla bean, split and scraped, seeds only	1	1
Salt	½ tsp	3 g
Orange, zested	1	1
Agar-agar	½ tsp	2 g

1. Bring the maple syrup, vanilla bean, salt, and orange to a boil. Add the agar-agar and allow to boil for 2 minutes. Remove the vanilla bean.

2. Chill the mixture over an ice bath.

3. Once set, purée in to desired consistency, adding maple syrup as needed to thin out mixture if necessary. Adjust flavor with salt.

CLASSIC CARAMEL SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Heavy cream	1 lb 8 oz	680 g
Sugar	13 oz	370 g
Glucose syrup	10 oz	280 g
Butter, cubed, soft	2¼ oz	60 g

1. Place the cream in a saucepan and bring to a boil over medium heat. Keep warm over very low heat.

2. Prepare an ice water bath. Combine the sugar and glucose syrup in a heavy-bottomed saucepan and slowly cook over medium heat, stirring constantly, until all the sugar has dissolved. Stop stirring and continue to cook to a golden caramel. Remove from the heat and shock the saucepan in the ice bath to stop the cooking.

3. Remove from the ice bath and stir in the butter. Carefully stir in the hot cream, mixing until fully blended. Cool.

4. The sauce is ready to be used or served, or it may be covered and stored in the refrigerator for later use.

CARAMEL SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Heavy cream	2 lb	910 g
Sugar	7 oz	200 g
Glucose syrup	5 oz	140 g
Butter, cubed, soft	1 oz	30 g
Salt	Pinch	Pinch

1. Place the cream in a saucepan and bring to a boil over medium heat. Keep warm over very low heat.

2. Prepare an ice water bath. Combine the sugar and glucose syrup in a heavy-bottomed saucepan and slowly cook over medium heat, stirring constantly, until all the sugar has dissolved. Stop stirring and continue to cook to a golden caramel. Remove from the heat and shock the saucepan in the ice bath to stop the cooking.

3. Remove from the ice bath and stir in the butter and salt. Carefully stir in the hot cream, mixing until fully blended. Cool.

4. The sauce is ready to be used or served, or it may be covered and stored in the refrigerator for later use.

ESPRESSO CARAMEL SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Sugar	1 lb	450 g
Brewed coffee, warm	1 lb 4 oz	570 g
Espresso beans	1 oz	30 g
Cinnamon sticks	2	2
Vanilla bean	2	2
Heavy cream	10 oz	280 g
Cornstarch	½ oz	14 g
Water	1oz	30 g
Butter	2 oz	60 g
Brandy	2 oz	60 g

1. Add a small amount of the sugar to a medium-hot pan set over medium heat and allow it to melt, then add the remaining sugar in small increments, allowing each addition to melt fully before adding the next. Continue this process until all the sugar has been added to the pan. Cook to the desired color. Remove from the heat and shock in an ice water bath for 10 seconds to stop the cooking process.

2. Carefully add the coffee to the caramel and stir to combine. Tie the espresso beans and cinnamon sticks in a sachet and add. Split the vanilla beans, scrape the seeds into the mixture, and add the pods, and simmer until the caramel is infused with the flavoring ingredients, about 15 minutes. Add the cream. Remove the sachet and vanilla bean pods.

3. Make a slurry with the cornstarch and water. Gradually whisk the slurry into the sauce and bring to a boil. Remove the pan from the heat.

4. Stir in the butter and brandy and mix until fully blended.

5. The sauce is ready to be used or served, or it may be covered and stored in the refrigerator for later use.

CLEAR APPLE CARAMEL SAUCE

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Sugar	1 lb	450 g
Apple juice, warm	1 lb 12 oz	790 g
Apple brandy, warm	4 oz	110 g
Cinnamon stick	1	1
Nutmeg, cracked	1	1
Butter	2 oz	60 g

1. To prepare the caramel, add a small amount of the sugar to a medium-hot pan set over medium heat and allow it to melt, then add the remaining sugar in small increments, allowing each addition to fully melt before adding the next. Continue this process until all the sugar has been added to the pan. Cook to the desired color.

2. Add the apple juice and apple brandy. Stir over medium heat to combine. Add the cinnamon stick and nutmeg and simmer for 20 minutes. Strain.

3. Stir in the butter.

4. The sauce is ready to be used or served, or it may be covered and stored in the refrigerator for later use.

CHEF'S NOTE

Depending on desired consistency, the sauce can be thickened before the butter is added with a cornstarch slurry made with 1 tsp/3 g of cornstarch and 2 oz/60 g of apple juice.

VARIATIONS

CLEAR ORANGE CARAMEL SAUCE

Omit the cinnamon and nutmeg. Split and scrape 1 vanilla bean, adding the seeds and pod to the caramel in step 2. Replace the apple juice with an equal amount of pulp-free orange juice, and the apple brandy with an equal amount of orange liqueur.

CLEAR PEAR CARAMEL SAUCE

Replace the apple juice with an equal amount of pear cider and the apple brandy with an equal amount of pear liqueur.

SOFT CARAMEL FILLING

MAKES 1 LB 4 OZ/570 G

INGREDIENT	U.S.	METRIC
Heavy cream	6 oz	170 g
Sugar	11 oz	310 g
Lemon juice	4 drops	4 drops
Butter	3 oz	90 g

1. Bring the cream to a boil; set aside but keep hot.

2. Combine the sugar and the lemon juice in a saucepan and cook over medium heat until the sugar is fully melted and has turned a deep amber color.

3. Slowly and carefully whisk in the hot cream. Whisk in the butter.

4. The filling is ready to be used or served, or it may be covered and stored in the refrigerator for later use.

BUTTERSCOTCH SAUCE

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Light brown sugar	1 lb 7 oz	650 g
All-purpose flour	3½ oz	100 g
Salt	1 tsp	6 g
Milk	2 lb	910 g
Egg yolks	2½ oz	70 g
Butter	2 oz	60 g
Vanilla extract	1 tbsp	15 mL

1. Combine the sugar, flour, and salt in a stainless-steel bowl over barely simmering water. Add the milk gradually, stirring with a whisk. Cook for 10 minutes.

2. Blend the egg yolks in a bowl and temper with a small amount of the brown sugar mixture, whisking constantly. Add the tempered egg yolks to the remaining brown sugar mixture and cook over barely simmering water, stirring constantly with a whisk, for 2 minutes.

3. Remove from the heat and stir in the butter and vanilla. Serve.

MILK CHOCOLATE CARAMEL FUDGE SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Sugar	1 lb	450 g
Water	4 oz	110 g
Light corn syrup	4 oz	110 g
Heavy cream, warm	1 lb 4 oz	570 g
Milk chocolate, finely chopped	7 oz	200 g

1. Combine the sugar, water, and corn syrup in a heavy-bottomed saucepan and bring to a boil over medium-high heat, stirring to dissolve the sugar. Cook without stirring to a rich golden amber.

2. Carefully blend the warm cream into the caramel. Remove the pan from the heat, add the chocolate, and stir until the chocolate is melted and thoroughly combined.

3. Adjust the consistency with more cream, if desired.

4. Serve warm or cold.

GINGER RUM SAUCE

MAKES 24 FL OZ/720 ML

INGREDIENT	U.S.	METRIC
Pineapple juice	1 lb 2 oz	510 g
Sugar	8 oz	230 g
Vanilla bean	1	1
Ginger, sliced ⅛ in/0.3cm thick	1½ oz	40 g
Jamaican dark rum	3 oz	90 g
Cornstarch	½ oz	14 g
Water	2 oz	60 g
Butter	1½ oz	40 g

1. Bring the pineapple juice to a boil. Keep warm over very low heat.

2. To prepare the caramel, add a small amount of the sugar to a medium-hot pan set over medium heat and allow it to melt, then add the remaining sugar in small increments, allowing each addition to fully melt before adding the next. Continue this process until all the sugar has been added. Cook to the desired color.

3. Carefully add the pineapple juice to the caramel, stirring constantly. Split the vanilla bean, scrape in the seeds, and add the pod and the ginger. Simmer for 30 minutes to infuse the sauce.

4. Add the rum and bring the sauce back to a simmer.

5. Make a slurry with the cornstarch and water. Gradually add the slurry to the sauce, whisking constantly, and cook until the sauce comes back to a boil and coats the back of a spoon. Blend in the butter. Strain the sauce.

6. Serve warm or chilled.

HONEY CARDAMOM SAUCE

MAKES 20 FL OZ/600 ML

INGREDIENT	U.S.	METRIC
Apple juice	10 oz	280 g
Pineapple juice	10 oz	280 g
Sugar	12 oz	340 g
Honey	8 oz	230 g
Ground cardamom	½ tsp	1 g
Cornstarch	½ oz	14 g
Water	2 oz	60 g
Butter	½ oz	14 g
Anise liqueur	½ oz	14 g

1. Bring the apple juice and pineapple juice to a boil. Keep warm over very low heat.

2. Place the sugar in a heavy-bottomed saucepan and cook, stirring constantly, over medium heat to a rich golden brown, occasionally washing down the sides of the pan with a wet pastry brush.

3. Add the honey to the caramel and stir until incorporated. Carefully add the warm juice mixture, stirring constantly. Add the cardamom and simmer for 15 to 20 minutes to blend the flavors.

4. Make a slurry with the cornstarch and water. Gradually whisk the slurry into the sauce and cook, whisking constantly, until the sauce coats the back of a spoon.

5. Blend in the butter and anise liqueur.

6. Serve warm or cold.

HONEY COGNAC SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Honey	1 lb 3 oz	540 g
Glucose syrup	9 oz	260 g
Cognac	4½ oz	130 g
Ground cinnamon	2 tsp	4 g
Lemon juice	1 oz	30 g

1. Combine the honey, glucose syrup, and cognac in a heavy-bottomed saucepan and bring to a boil over medium heat. Boil for 2 minutes.
2. Remove from the heat and add the cinnamon and lemon juice.
3. The sauce is ready to be used or served, or it may be covered and stored in the refrigerator for later use.

VANILLA SAUTERNES REDUCTION

MAKES 20 FL OZ/600 ML

INGREDIENT	U.S.	METRIC
Sauternes	1 lb 9 oz	710 g
Vanilla bean, seeds only	4	4
Sugar	3 oz	90 g

1. Bring the Sauternes to a boil in a saucepan over medium heat, and reduce by one-quarter.
2. Add the vanilla bean seeds and sugar and heat, stirring, just until the sugar is dissolved, about 2 minutes. Strain through a fine-mesh sieve.
3. The reduction is ready to be used or served, or it may be covered and stored in the refrigerator for later use.

CHEF’S NOTE

Reducing the sauce too far will cause it to discolor.

CHERRY SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Dried cherries	1 lb	450 g
Sugar	12 oz	340 g
Red wine	14 oz	400 g
Cherry liqueur	1 oz	30 g
Cinnamon stick	2	2
Lemon juice	1 oz	30 g

1. Combine the cherries, sugar, wine, cherry liqueur, and cinnamon sticks in a saucepan. Bring to a simmer over medium heat. Simmer until the cherries are tender, about 30 minutes.

2. Remove the cinnamon sticks, transfer the mixture to a food processor, and purée until smooth.

3. Strain the sauce through a fine-mesh strainer and stir in the lemon juice.

4. Serve warm or cold.

PINEAPPLE HONEY BEURRE BLANC

MAKES 1 LB/450 G

INGREDIENT	U.S.	METRIC
Pineapple juice	8 oz	230 g
White wine	8 oz	230 g
Honey	2 oz	60 g
Ginger, minced	½ oz	14 g
Allspice berries	8	8
Butter, cold, ½-in/1-cm cubes	1 lb	450 g

1. Combine the pineapple juice, wine, honey, ginger, and allspice in a saucepan, bring to a boil, and boil until reduced to the consistency of a heavy syrup. Strain through a fine-mesh sieve into a clean saucepan.

2. Place over low heat and whisk in the butter gradually to maintain the emulsion.

3. Keep warm in a bain-marie until ready to serve.

CHAMPAGNE SAUCE

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Champagne	1 lb	450 g
Orange juice	4 oz	110 g
Sugar	6 oz	170 g
White grapes, cut in half	4 oz	110 g
White wine	1½ oz	40 g
Cornstarch	½ oz	14 g
Orange liqueur	½ oz	14 g

1. Bring the Champagne and orange juice to a boil in a saucepan over medium heat. Add the sugar and grapes and simmer, stirring gently, until the grapes are tender, about 5 minutes.

2. Meanwhile, make a slurry with the white wine and cornstarch. Gradually whisk the slurry into the sauce and bring back to a boil, whisking constantly.

3. Strain through a fine-mesh sieve.

4. Stir in the orange liqueur. Cool completely.

5. The sauce is ready to be used or served, or it may be covered and stored in the refrigerator for later use.

VARIATION

WHITE WINE SAUCE *Substitute white wine for the Champagne.*

ORANGE HARD SAUCE

MAKES 1 LB 9 OZ/710 G

INGREDIENT	U.S.	METRIC
Butter, soft	1 lb	450 g
Confectioners' sugar	9 oz	230 g
Orange zest, grated	½ oz	14 g
Orange juice	1 oz	30 g

1. Cream together the butter and sugar with the paddle attachment on medium speed, scraping down the bowl periodically, until smooth and light in color, about 5 minutes.

2. Add the orange zest and juice and blend until fully incorporated.

3. Fill a pastry bag fitted with a #3 star tip with the mixture and pipe rosettes onto parchment paper. Chill well before serving.

LEMON HARD SAUCE

MAKES 2 LB/910 G

INGREDIENT	U.S.	METRIC
Butter, soft	1 lb	450 g
Confectioners’ sugar	9 oz	230 g
Dark rum	6½ oz	180 g
Lemon juice	1 oz	30 g

1. Cream together the butter and sugar with the paddle attachment on medium speed, scraping down the bowl periodically, until smooth and light in color, about 5 minutes.

2. Add the rum and lemon juice in several additions, blending well after each addition.

3. Fill a pastry bag fitted with a #3 star tip with the mixture and pipe rosettes onto parchment paper. Chill well before serving.

VARIATIONS

HONEY HARD SAUCE *Substitute 2 tbsp/20 g honey for the confectioners’ sugar.*

ANISE HARD SAUCE *Substitute 1 tbsp/15 mL anise extract for the rum.*

BROWN SUGAR BUTTER RUB

MAKES 1 LB 4 OZ/570 G

INGREDIENT	U.S.	METRIC
Butter	4 oz	110 g
Light brown sugar	1 lb	450 g

Melt the butter in a saucepan over low heat. Add the brown sugar and blend well. Allow the mixture to cool completely before applying to fruit.

DEVIL'S FUDGE ICING

MAKES 6 LB/2.72 KG

INGREDIENT	U.S.	METRIC
Cocoa powder, sifted	8 oz	230 g
Butter	8 oz	230 g
Light corn syrup	12 oz	340 g
Salt	½ oz	14 g
Vanilla extract	2 tsp	10 mL
Water, hot	8 oz	230 g
Confectioners' sugar	2 lb 8 oz	1.13 kg

1. Cream together the cocoa powder, butter, corn syrup, salt, and vanilla with the paddle attachment, starting on low speed and increasing to medium speed, until light and fluffy, about 5 minutes.

2. Add most of the water and mix well. Add the sugar and mix until smooth. Adjust the consistency with the remaining hot water as necessary.

3. Store at room temperature in a sealed container.

CHOCOLATE WHIPPED CREAM

MAKES 1 LB ½ OZ/470 G, ENOUGH FOR 2 HALF-SHEET ROULADES

INGREDIENT	U.S.	METRIC
Dark chocolate chips, 64%, melted, hot	4 oz	110 g
Vegetable oil	½ oz	14 g
Heavy cream, whipped to soft peaks	12 oz	340 g

1. Combine the melted chocolate and oil in a bowl, mixing until well combined.

2. Add 3 oz/90 g of the whipped cream to the hot chocolate mixture and mix using a whisk until fully incorporated.

3. Add 4½ oz/130 g of the remaining whipped cream and stir, keeping a marble appearance in the mixture.

4. Add the remaining 4½ oz/130 g whipped cream and stir, keeping a marble appearance in the mixture. Use at once.

VANILLA AND DATE MILK DRESSING

MAKES 8 OZ/230 G

INGREDIENT	U.S.	METRIC
Milk	10 oz	280 g
Sugar	6½ oz	180 g
Vanilla bean, split and scraped	1	1
Dates, finely chopped	2	2

1. Combine all the ingredients in a small saucepot.

2. Bring to a boil over medium heat, then lower the heat to low and cook until the mixture turns a light beige caramel color, 30 minutes to 1 hour. Stir occasionally to prevent the milk from scalding.

3. Strain through a fine-mesh sieve, using a 1-oz/30-g ladle to help force the dates through the mesh. Let cool to room temperature, then refrigerate until needed.

4. Serve at room temperature.

BANANA PASSION FRUIT BROTH

MAKES 6 LB/2.72 KG

INGREDIENT	U.S.	METRIC
Boiled spring water	2 lb 12½ oz	1.26 kg
Sugar	10¼ oz	290 g
Bananas, medium, very ripe	4	4
Passion fruit purée	1 oz	30 g
Orange juice	1 lb 9 oz	710 g

1. Combine the water and sugar in a large saucepot. Slice the bananas horizontally into ¼-in/0.6-cm slices and add.

2. Bring to a gentle simmer (190°F to 200°F/88° to 93°C) for 10 minutes.

3. Remove from the heat and cool to room temperature.

4. Stir in the passion fruit purée and orange juice. Strain through a fine-mesh sieve into a large plastic container. Cover and refrigerate overnight.

CHEF'S NOTE

For the Pear and Thai Jewels plated dessert (page 879), place the cooled poached pears in the broth. Make sure the pears are completely submerged; use a plate and parchment paper if necessary to weigh down the pears.

SPRAYING CHOCOLATE

MAKES 1 LB/450 G

INGREDIENT	U.S.	METRIC
Cocoa butter	8 oz	230 g
Couverture chocolate, roughly chopped	8 oz	230 g

1. Combine the cocoa butter and chocolate in a bowl and melt over barely simmering water. Place the chocolate mixture in a metal bain-marie and place it inside a larger bain-marie filled with hot water. Hold the chocolate mixture at 130°F/54°C.
2. Pour the chocolate mixture into an electric paint gun and spray onto frozen items immediately.

GUAVA JELLY

MAKES 1 FRAME (SEE PAGE 51)

INGREDIENT	U.S.	METRIC
Sugar	8¾ oz	250 g
Pectin, dry	½ oz	14 g
Guava purée	1 lb 1¾ oz	500 g
Gelatin, sheet	3	3

1. Combine the sugar, pectin, and guava purée in a saucepan and bring to a boil.
2. Bloom the gelatin in cold water. Drain and set aside.
3. Remove the pan from the heat, add the gelatin, and stir to combine.
4. Pour immediately into the frame and freeze.

BASIL GELÉE

MAKES 1 LB 8 OZ/680 G

INGREDIENT	U.S.	METRIC
BASIL BASE		
Basil	2 oz	60 g
Water	1 lb	450 g
Lemon juice	½ oz	14 g
GELÉE		
Sugar	6 oz	170 g
Basil base (above)		
Agar-agar	½ tsp	3 g

1. To make the basil base, blanch the basil for 1 to 2 minutes, or until just wilted, and shock. Drain the basil and dry it on paper towels.

2. Purée the basil in a blender with the water and lemon juice. Strain and reserve liquid.

3. Combine the sugar and agar-agar with ¼ cup of the basil purée and bring to a boil.

4. Remove from the heat and cool to room temperature. Add the rest of the basil base and allow to set in a hotel pan.

5. Cut different size circles with small cutters.

ENCAPSULATED BERGAMOT ORANGE SPHERES

MAKES1 LB 8½ OZ/690 G

INGREDIENT	U.S.	METRIC
Water	1 lb 6 oz	620 g
Sugar	1¾ oz	50 g
Genutine 400-C	2 tsp	2.5 g
Orange food coloring (optional)	As needed	As needed
Bergamot Orange Curd Spheres (page 426)	As needed	As needed
Simple Syrup (page 1079), cold	As needed	As needed

1. Combine the water and the sugar in a small saucepot.

2. Shear the Genutine into the water-sugar mixture using an immersion blender.

3. Bring to a boil over high heat while stirring. If desired, add orange color.

4. Remove the pan from the heat and allow the mixture to cool to about 120°F/50°C.

5. Unmold the bergamot orange curd spheres onto a parchment-lined sheet pan and keep frozen until ready to dip.

6. Stab a sphere using a scribe or a long needle, and dip it in the warm gel for 2 seconds, then pull it out quickly. When you pull the sphere out of the gel, quickly turn the scribe to point upwards so that the excess gel trickles down the scribe and you can form an even-looking sphere; otherwise it will have strange-looking bumps.

7. Dip the sphere into a container of cold simple syrup. This will make the gel set completely.

8. Gently push the encapsulated sphere off the scribe or needle using your fingers. Store the spheres in the simple syrup.

CHEF'S NOTE

Genutine is a commercially available product that is a mixture of carrageenan (kappa) and locust bean gum. If you are not able to obtain it, you can mix your own: 60% kappa carrageenan (1 oz/30g) and 40% LBG (¾ oz/20g).

CHAMPAGNE GEL

MAKES 1 LB 4½ OZ/581 G

INGREDIENT	U.S.	METRIC
Calcium, powdered	¾ oz	20 g
Water	5¼ oz	150 g
Sugar	2¼ oz	60 g
Prickly pear purée	12¼ oz	350 g
Low-acyl gellan gum	0.15 oz	4.2 g

1. Shake the calcium well and scale ¾ oz/21 g into the measured water.
2. Add the sugar to the purée.
3. Slowly sprinkle the gellan into the water while whisking vigorously. Bring the water to a boil to hydrate the gellan.
4. Bring the purée to a boil and combine with the gellan solution when the gellan is fully hydrated.
5. Pass through a fine-mesh sieve. Pour out into a pan to set up.
6. Slice gel into cubes and blend in blender until smooth.

RED BEAN PASTE

YIELD: 1 LB 10½ OZ/750 G

INGREDIENT	U.S.	METRIC
Red bean paste	1 lb 3 oz	540 g
Glucose syrup	3.8 oz	107 g
Butter	4.7 oz	134 g
Fleur de sel	Pinch	Pinch

1. Heat the red bean paste and glucose syrup over low heat until the mixture reaches 115°F/46°C.
2. Place the red bean mixture, butter, and salt in a mixer with a paddle attachment. Aerate for 5 minutes. Use as desired.

RED BEAN PASTE DÉCOR

YIELD: 3 OZ/90 G

INGREDIENT	U.S.	METRIC
Red Bean Paste (page 547)	3 oz	90 g

Smooth out red bean paste by working it with a spatula against the side of a bowl until desired consistency is reached for piping.

RED BEAN JAM

YIELD: 1 LB 12 OZ/790 G

INGREDIENT	U.S.	METRIC
Red Bean Paste (page 547)	1 lb 12 oz	790 g

Smooth out red bean paste until it has a spreadable consistency.

CHAMPAGNE GASTRIQUE

MAKES 10½ OZ/298 G

INGREDIENT	U.S.	METRIC
Champagne vinegar	3½ oz	100 g
Champagne	3½ oz	100 g
Vanilla bean, split and scraped	1	1
Sugar	3½ oz	100 g

1. Combine all of the ingredients in a saucepot. Cook over medium heat and reduce until thick. Strain the sauce.
2. Adjust the acidity to taste with more vinegar if necessary.

RHUBARB

MAKES 3½ OZ/100 G

INGREDIENT	U.S.	METRIC
Rhubarb stalks	1	1
Sugar	1¾ oz	50 g
Water	1¾ oz	50 g

1. Cut the rhubarb stalk into 1½ by ½-in/4 by 1-cm batons.

2. Boil the sugar and water; cool over an ice bath.

3. Combine the sugar mixture with the rhubarb batons in a plastic vacuum bag. Seal on the highest setting.

4. Poach in circulating water bath until tender. Store in the bag in the refrigerator until needed.

CANDIED APPLES

MAKES 2 LB 6 OZ/1.08 KG

INGREDIENT	U.S.	METRIC
Sugar	1 lb 5 oz	600 g
Water	5 oz	150 g
Lemon juice	1 oz	30 g
Granny Smith apples, peeled (save skins for the Apple Skin Powder, below) and cut into small dice	10½ oz	300 g

1. In a large sauté pan, combine the sugar, lemon juice, and enough water to obtain a wet sand consistency. Bring to a boil over high heat.

2. When the sugar begins to turn a pale yellow (266°F/130°C), add the apples and continue to cook over medium heat until the sugar is caramelized and the apples are translucent, about 30 minutes.

3. Pour the contents into a large conical strainer to drain the excess moisture. Spread the candied apples on a sheet pan lined with parchment paper and let cool to room temperature. Use as desired.

VARIATION

APPLE SKIN POWDER *1. Use the skins reserved from the candied apples. Place in a dehydrator set to 122°F/50°C for 12 to 18 hours or until dry.*
2. Grind as fine as possible in a coffee grinder.
3. Reserve in an airtight container up to a week (if environment is dry it will last longer) or in the dehydrator indefinitely.

CARAMEL BAKING LIQUID FOR APPLES

MAKES 2 LB 7¾ OZ/1.13 KG

INGREDIENT	U.S.	METRIC
Sugar	1 lb 3½ oz	550 g
Water	4¾ oz	130 g
Glucose syrup	¾ oz	20 g
Butter	6½ oz	180 g
Orange juice	6½ oz	180 g
Vanilla bean, seeds only	2	2
Salt	Pinch	Pinch
Dark rum	1¾ oz	50 g

1. Place the sugar, water, and glucose in large nonreactive saucepot and stir to combine. Cook over high heat until a medium caramel color is achieved.

2. Remove from the heat and, pouring very slowly so sugar does not seize, vigorously whisk in the butter, vanilla bean seeds, orange juice, and rum. Cool over an ice bath.

3. Refrigerate in an airtight container until needed.

FIG LIQUID

MAKES 1 LB 11 OZ/765 G

INGREDIENT	U.S.	METRIC
Sugar	7 oz	200 g
Banyuls wine	1 lb	450 g
Orange juice, strained	4 oz	110 g
Vanilla bean, split and scraped	1	1
Lemon, juiced	1	1
Ground black pepper	1 tsp	2 g
Balsamic vinegar	2 tsp	10 mL
Dried figs, halved	As needed	As needed

1. Make a caramel with the sugar, cooking it by the dry method (see page 923).
2. When the sugar has reached the desired color, add the Banyuls wine, orange juice, vanilla bean, lemon juice, pepper, and vinegar.
3. Pour the hot liquid over the figs and cover with plastic. Leave at room temperature until the figs soften.

FIG PASTE

MAKES 3 LB 10 OZ/1.64

INGREDIENT	U.S.	METRIC
Fresh figs, chopped	2 lb	910 g
Prunes, chopped	1 lb	450 g
Banyuls wine	4 oz	110 g
Balsamic vinegar	2 oz	60 g
Sugar	4 oz	110 g
Ground black pepper	1 tbsp	6 g

1. Combine all the ingredients with a little water in a saucepot. Cook over medium heat until the figs soften and all of the liquid is almost gone.
2. Purée to a fine paste. The paste is ready to be used or may be stored in an airtight container in the refrigerator.

PICKLED STRAWBERRIES

MAKES 1 QT/960 ML

INGREDIENT	U.S.	METRIC
PICKLED STRAWBERRY PURÉE		
Rice vinegar	1 lb	450 g
Sugar	1 lb	450 g
Pink peppercorns	2 tbsp	14 g
Vanilla bean, split and scraped	1	1
Strawberries, cored	14 oz	400 g
STRAWBERRY SPHERES		
Purée (above)	10½ oz	300 g
Sugar	1¾ oz	50 g
Calcium lactate	½ oz	14 g
ENCAPSULATING THE SPHERES		
Water	2 lb 3¼ oz	1 kg
Sugar	2¼ oz	60 g
Sodium alginate	0.18 oz	5 g

1. To make the pickled strawberry purée, bring the rice vinegar, 12 oz/340 g of sugar, the pink peppercorns, and vanilla bean to a boil and pour over the strawberries. Cover tightly and macerate for 30 minutes to 1 hour.

2. Drain the strawberries, reserving the pickling liquid. Purée them, adding back some of the pickling liquid as needed to make a smooth purée. Reserve the extra pickling liquid to store the finished spheres in.

3. To make the spheres, combine the purée with 1¾ oz/50 g sugar and the calcium lactate, using an immersion blender, until smooth. Freeze overnight in mini demi-sphere molds.

4. Bring the water, 2¼ oz/60 g sugar, and the sodium alginate to a boil and chill.

5. When ready to encapsulate the spheres, unmold the pickled strawberry purée from the demi-sphere molds. Line them up on a parchment-lined half sheet pan and store in the freezer.

6. Blend the water and the sodium alginate to make the alginate soak. Set up a bowl of the alginate soak, a bowl of cool water, and a bowl with the reserved pickling liquid.

7. Drop a few frozen spheres into the alginate soak and allow them to sit for 2 to 3 minutes. Remove them from the soak with a slotted spoon and drop them into the cool water to rinse. Remove them with a slotted spoon and store them in the pickling liquid until ready to use.

STEAMED APPLE INSERT

YIELD: 1 LB 1½ OZ/500 G

INGREDIENT	U.S.	METRIC
Apples, peeled and cored	1 lb	450 g
Lemon juice	As needed	As needed
Sugar	1½ oz	40 g

1. Dice the apples in¼-in/0.6-cm pieces. While dicing, toss the apples with lemon juice in a stainless-steel bowl, to prevent oxidation.

2. Once the apples are cut, add the sugar and toss. Cover the bowl with plastic wrap and place over simmering water.

3. Steam the apples until softened, about 25 minutes. Drain well after cooking. Reserve until needed.

BUTTER CAKE SAUCE

MAKES 1 QT

INGREDIENT	U.S.	METRIC
Cake flour	7½ oz	210 g
Sugar	7 oz	200 g
Baking powder	½ tbsp	6 g
Salt	½ tsp	3 g
Butter, room temp	4 oz	110 g
Milk	7 oz	185 g
Eggs	2	2
Egg white	1	1
Vanilla bean, split and scraped	1	1

1. Sift together the dry ingredients and place them in the bowl of a mixer fitted with a whip attachment. Add the butter and half of the milk. Whip to combine.

2. Combine the remaining ingredients including 4 oz/100 g of the milk and add to the mixture in the mixer bowl in stages.

3. Spread the batter in an even layer in a half sheet pan lined with parchment paper. Bake in a preheated 350°F/177°C oven until the cake springs back when lightly touched in the center.

4. For the sauce, pull apart the cake and add to a vita prep blender to about half full. Add the remaining 75 g milk and purée until smooth, adding more milk as necessary.

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FROZEN DESSERTS

Sugar syrups, dairy and custard mixtures, yogurt, and fruit purées may all be used as the base to make frozen desserts. Any of these bases may then be churned- or still-frozen. These two methods of production yield frozen desserts with vastly different textures. Understanding the principles of each type of frozen dessert will give the chef creative freedom to explore different possibilities of flavor, texture, and presentation.

CHURNED-FROZEN ICE CREAM

THE BASIC INGREDIENTS FOR ice cream are milk, cream, sugar, flavorings, and sometimes eggs.

There are two basic types of ice cream. Custard ice cream, also known as *French ice cream*, is made with a base of a stirred egg custard (essentially a vanilla sauce). The techniques and precautions that are used in the production of a crème anglaise should be applied when producing this type of ice cream base. The use of pasteurized eggs is preferred to reduce the risk of spreading foodborne illness.

The second type of basic ice cream preparation does not use eggs. The base is made by simply heating milk, or a mixture of milk and cream, to incorporate sugar and other ingredients. An endless variety of ice cream can be produced with either method from these basic preparations by introducing different flavors and ingredients. (The same holds for the possibility of adjusting or substituting various milk products or sweeteners to produce an equally enjoyable dessert.)

Frozen yogurts, containing yogurt, sweeteners, and sometimes flavorings, are available in regular and low-fat varieties. These cannot be categorized as low-fat ice cream because of their solids content that relate to the fat percentages. There are no USDA specific standards for frozen yogurt.

Regardless of the type of base, it is good practice to age it under refrigeration (at approximately 40°F/4°C) for at least twelve hours before freezing. Aging allows the protein network to absorb more of the moisture present in the base, leaving less water available to form ice crystals, resulting in a smoother ice cream. Churn the chilled base only to “soft-serve” consistency and then extract from the machine, pack into containers, and place in a freezer for several hours to allow it to freeze to a servable temperature and consistency as fast as possible to prevent large ice crystals from forming.

HOW INGREDIENTS AFFECT CONSISTENCY AND MOUTHFEEL

All the ingredients add flavor to the ice cream, but each one also plays a part in determining consistency and mouthfeel. The eggs in custard ice cream make it richer and smoother than its eggless counterpart, both because of the fat, protein, and emulsifiers

LEFT: *Testing churning ice cream for doneness*

RIGHT: *Extracting ice cream from the machine*

lab100B
WARNING
DO NOT OPERATE MACHINE WITH DOOR OPEN OR WITHOUT SAFETY GRILL

contributed by the egg yolks and because cooking the proteins present in the eggs binds or holds moisture. This interferes with the formation of ice crystals and results in smaller ice crystals, thus lending a smoother texture to the finished ice cream. (For more about emulsions and cooking proteins, see pages 72 and 73).

The cream and eggs in ice cream allow for the incorporation of air during freezing. The air incorporated into ice cream, known as *overrun*, gives it a smoother mouthfeel and lighter body. Too much overrun, however, will diminish the flavor, make the ice cream too soft, and make it melt quickly. Overrun amounts, indicated in percentages, represent the amount of air contained in the ice cream. The legal limit for overrun imposed by the FDA is 100 percent, which would indicate the ice cream was increased in volume by half.

The solids present in milk and cream interfere with the formation of ice crystals, while their emulsifiers help to bind together the liquids and fats. Both of these actions affect mouthfeel, as they result in a finer, smoother texture.

Milk powder is often added to ice cream made without eggs. It helps to bind excess liquid in the base that would otherwise result in the formation of large ice crystals.

For best results, use a mixture of milk and cream to avoid having too much butterfat in the mix. The butterfat content of ice cream typically ranges from 10 to 18 percent. Butterfat is important, as it contributes both flavor and richness of mouthfeel. However, too much fat will result in an undesirable grainy mouth feel. For the same reason, use care in adding ingredients high in fat such as white chocolate, so as not to increase the fat content of the ice cream to an undesirable level.

Sugar both adds sweetness and lowers the freezing point of the base, keeping the ice cream from freezing too hard. Invert sugars improve texture and help prevent the formation of large ice crystals.

ADDING FLAVORINGS

There are a number of methods for adding flavorings to ice cream. Flavorings such as vanilla bean, tea, coffee, and spices can be infused into the milk and cream as they are heating. The ice cream base is then cooked as usual with the flavorings, which are strained out before freezing. Purées can be blended into the custard after it has cooled, or folded into still-soft, just-churned ice cream for a swirled effect. Melted chocolate can be added to the still-warm, just-cooked ice cream base, while nut pastes, such as peanut butter and praline paste, are added to the ice cream base after it is cooked. They may be added while the base is still warm or carefully blended into an aged, chilled base.

FLAVORING ICE CREAM WITH EXTRACTS AND COMPOUNDS

Extracts or compounds such as praline paste and other concentrated low-moisture flavorings can be added to an ice cream base without affecting the texture of the ice cream.

To use praline paste or other nut pastes (including peanut butter) or melted chocolate, make the ice cream base as directed. Add the desired flavoring and stir until evenly blended as soon as you remove the base from the heat, or add to a base that has been chilled and aged, blending carefully to ensure full incorporation.

ADDING FRUITS TO ICE CREAM

Fresh and puréed fruits are wonderful as garnishes or flavorings for ice creams and other frozen desserts. Depending on the fruit or product, they can be added whole or in chunks, folded in as a swirl, or used as a flavoring for the ice cream base. Whenever you use fresh fruit, taste it to see how sweet it is, then increase or decrease the amount of sweetener you add to the base as necessary.

To use fresh fruit as a garnish in ice cream, poach or macerate them in a heavy sugar syrup to prevent it from freezing too hard. For soft fruits, bring the syrup to a boil, then remove from the heat, add the fruit, cover, and allow to stand until cool. Drain the fruit and chill. Fold the poached fruit into the soft ice cream just as it comes from the machine. For harder fruits, use the same technique but leave the fruit in the syrup for approximately 15 minutes, making sure the temperature is maintained between 160° and 180°F/71° and 82°C.

VARIEGATING ICE CREAMS

TO MAKE VARIEGATED (SWIRLED) ice creams, fill a pastry bag fitted with a medium-size plain tip with a room-temperature garnish such as Hard Ganache (page 484), Marshmallows (page 968), nut paste, jam, preserves, or Soft Caramel Filling (page 534). As the ice cream is extracted from the machine, stream in the garnish. Fold the ice cream mixture just enough to marbleize the ice cream with the ingredients. A good rule for the amount of an ingredient to use for variegation is approximately 20 percent of the total volume of the ice cream.

Ice cream is variegated as it is being extracted from the batch freezer.

To flavor an ice cream using a fruit purée, such as raspberry, peach, mango, or banana, omit the milk when making the base. Age the ice cream as usual, then blend in the desired fruit purée in a quantity equal to the original amount of milk in the formula. Freeze as usual. For very strongly flavored fruits, such as passion fruit, or fruit concentrates, replace only half of the milk in the formula with the fruit purée. When using a pulpy fruit purée to flavor an ice cream, homogenizing the mixture before freezing will create a better suspension.

GELATO

OPINIONS ON WHAT makes a gelato unique will differ. If you ask an Italian pastry chef what gelato means, he will simply reply “ice cream,” which is its literal translation. If you ask a pastry chef in the United States what it means, you will have many different opinions. Some will say that gelato should contain no heavy cream or egg yolks, some will say it should—and they would both be right. In Italy, they make gelato with milk alone, with milk and heavy cream, and with milk, heavy cream, and eggs. Despite the different opinions, there is one quality that makes it unique and different from ice cream and custard-base ice cream, and that is its overrun (see “How Ingredients Affect Consistency and Mouthfeel,” page 556). While most ice creams and custard-base ice creams have an overrun between 40 and 60 percent, the overrun for gelato is 20 percent, which makes it a denser, more compact product. If you incorporate any more air, it becomes ice cream or custard-base ice cream. The production of gelato is the same; it is the churning time and speed that varies. With gelato, the churning time is shorter and the speed is slower, additionally, gelato has a lower fat and egg content which allow it to trap less air and therefore the finished product will have less air incorporated. The flavor the same but the texture is vastly different.

SORBET AND SHERBET

SORBET IS A CHURNED frozen dessert that is basically a mixture of sweetened fruit juice or purée and water. In its simplest form, sorbet is a fairly concentrated sugar syrup with added flavoring or flavorings. These flavorings may range from a fresh fruit purée to a fruit juice (such as lemon) or even to a flavor infusion such as tea, sweet basil, mint, or thyme. Unlike sherbet, sorbet never contains any dairy, but like sherbet, it may contain added emulsifiers to enhance softness and smoothness of flavor.

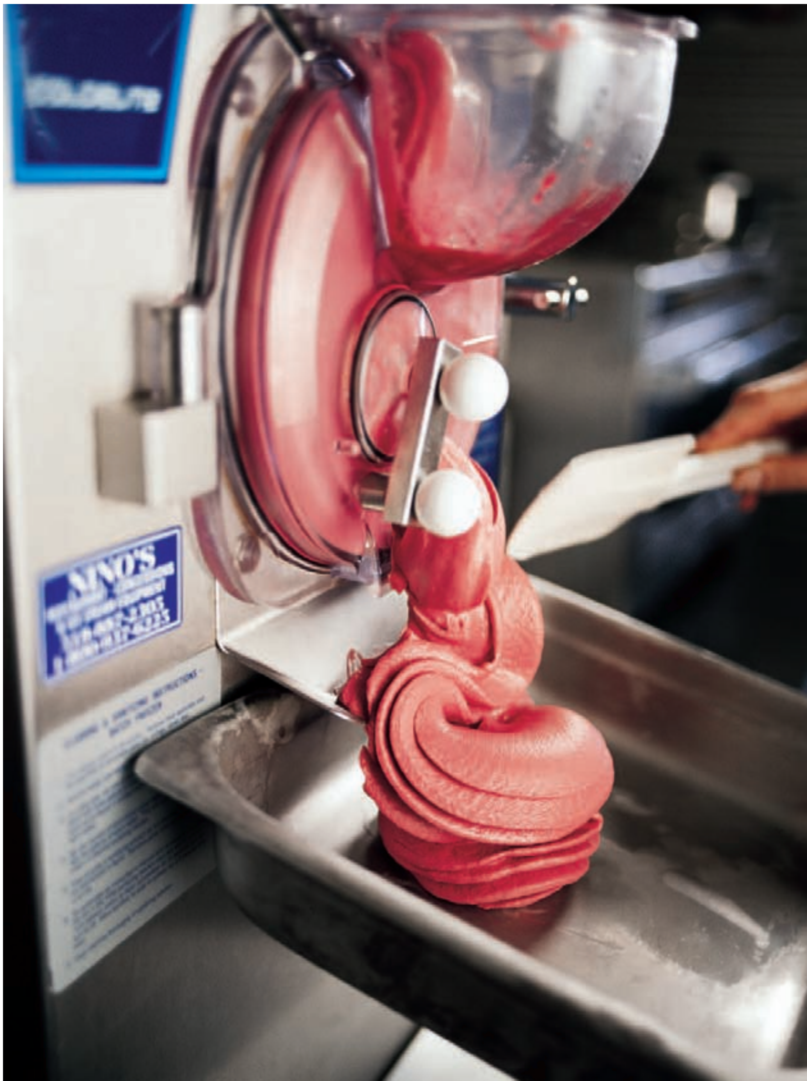
The sugar content of sorbet is approximately 26–28%. If 10 percent of the sugar in a formula is added in the form of glucose syrup, a smoother texture will result. Sorbets made with fruit juice, as opposed to purée, tend to separate. Juices lack the pulp contained in a purée, which helps to sustain the mixture of water, flavorings, and sugar. To help prevent separation when only fruit juice is used, add a commercial stabilizer or a measure of pasteurized egg whites. Similarly, a stabilizer should also be used when a formula calls for a high proportion of water.

A small amount of egg whites may be added to the sorbet base to give the final product a smoother texture; it is usually incorporated before the freezing process begins or added toward the end of the process in the form of a frothy meringue. Egg whites add volume and make a creamier product with a lighter texture. They also act to help prevent the mixture from separating during long-term storage in the freezer. (For 64 fl oz/1.92 L sorbet base, add 1 oz/30 g pasteurized egg whites.) Purists, however, feel that the addition of egg white to a sorbet masks its clarity and freshness.

In a similar manner, commercial stabilizers such as xanthan gum extend suspension, promote air incorporation and even out air bubble distribution, and assure the cohesion of a finished product during storage.

LEFT: *Checking the sugar density of a sorbet with a refractometer*

RIGHT: *Compare the density of a sorbet as it comes out of the machine with that of ice cream (shown on page 556).*



1. Combine all ingredients and stir until evenly blended. Cover and chill thoroughly under refrigeration. Because sugar helps to control the freezing point of the mixture, it is important that the sugar content is in the proper percentage: If there is too much sugar, the mixture will not freeze; if there is too little sugar, the frozen mixture will be too hard.

2. Process in an ice cream machine according to manufacturer's instructions. The constant churning that occurs during the freezing of a sorbet yields a smooth, creamy texture.

3. Pack into storage containers or molds and freeze for several hours, or overnight, before serving or using in plated desserts.

SUGAR CONTENT

When making sorbets and sherbets, as well as granitas, it is essential that the sugar content (or density) of the syrup base be in the proper percentage. The density of a sugar solution is a measure of the amount of sugar dissolved in the liquid.

Baumé and Brix are the two most common scales used for measuring sugar density in the pastry shop. A saccharometer is used to measure Baumé (Be), which indicates the specific gravity of the solution. It registers the reading on a scale calibrated from 0° to 40° Be. A refractometer registers the percentage of sugar in a solution, expressed on the Brix scale. Most sorbets range in density from about 16° to 18° Be, or 30° Brix, depending on the ingredients and desired sweetness.

Sherbets, which are typically fruit flavored, contain more sugar than ice cream but less dairy. They may be made with milk (with or without cream), or with powdered, evaporated, or condensed milk. Emulsifiers such as pectin, gelatin, gums, egg whites, or meringue are often added for a smoother mouthfeel. Sherbets, like sorbets, are usually at approximately 30° Brix, with the dairy adding 1 to 2 percent butterfat, resulting in a richer mouthfeel.

When making sorbets or sherbets, remember that the sugar content of most fruits varies according to ripeness. Therefore, it may be necessary to adjust the consistency of the sorbet base by adding more liquid if it is too sweet or more sugar if it is too tart. Let taste be the most important factor.

GRANITA

LIKE SORBET, GRANITA (also known as *granité*) is a light and refreshing frozen dessert based on sugar, water, and a flavored liquid such as a fruit juice or liqueur. However, the freezing process for granita, as well as its lower sugar content, make for a dessert with a very different texture. Unlike the creamy and smooth texture of sorbet, the texture of granita is similar to that of crushed ice. Also unlike sorbet, the freezing process of granita involves occasional stirring as opposed to constant agitation.

Granita can be made to taste sweet or savory. To make a savory granita, infuse the base with dried herbs such as thyme, sage, or rosemary. Granitas are often served as an intermezzo or as a component of a richer dessert.

1. Stir all the ingredients together until blended. It is important to make sure that the sugar content be in the proper percentage; if there is too much sugar, the base will not freeze (sugar raises the freezing point of a solution), and if there is not enough sugar, the base will become too hard.

2. Pour into a prechilled hotel pan and place in the freezer. To freeze granita, use a conventional freezer and a container that allows for large surface area exposure.

3. Stir the mixture every 15 to 20 minutes with a whip or a fork until it resembles crushed ice. Stirring the mixture only occasionally encourages the formation of large ice crystals, whereas the relatively high sugar-to-liquid ratio and constant churning of sorbet yields a smooth, creamy texture.

Granita may also be used to make shaved ice by freezing the mixture into a solid block, then shaving off portions using a metal spoon.

4. Cover tightly and freeze until needed.

TOP LEFT: *Checking the sugar density of the granita base with a refractometer.*

TOP RIGHT: *Stirring the granita as it freezes creates larger crystals.*

BOTTOM LEFT: *Scraping the granita with a fork after it freezes creates finer crystals.*

MOLDED FROZEN DESSERTS

A WIDE ARRAY OF molds and containers may be used to mold almost any type of frozen dessert into interesting shapes and forms. Something as simple as a bowl, cake ring, or charlotte mold, or the most elaborate specialty pudding and bakeware molds, can be used. You can use a single ice cream flavor in a mold lined with a layer of cake, or layer several different complementary flavors and colors in one mold. Add layers of cake or various garnish ingredients, such as chopped nuts or chocolate, or cake or cookie crumbs, to add both flavor and texture.

Regardless of the type of mold, the basic procedure for molding is the same.

1. Line molds with open bottoms, such as cake rings, with plastic wrap to prevent any leakage before the dessert is completely frozen. Lining the base and sides of this type of mold with a layer of cake is a common practice. If the sides of the mold are not lined with cake, the molded dessert is often iced before serving.

2. Whatever type of frozen product you are using, it must be soft enough to spread easily. If possible, use ice cream, frozen yogurt, sorbet, or sherbet directly from the ice cream machine, when it will be the perfect consistency. Working with soft ice cream or the like helps to ensure that no air pockets develop as the mold is filled. If the product you are using is frozen hard, let it stand at room temperature until it is soft and spreadable but not melting.

3. To fill a mold with one flavor of ice cream or other frozen dessert, fill the mold all at once, spreading the frozen dessert evenly. Periodically tap the mold gently on a counter to get rid of air pockets. Cover the filled mold tightly with plastic wrap and place it in the freezer until it is thoroughly frozen.

4. You can fold garnish ingredients, such as nuts or chopped chocolate, into the softened ice cream (or other frozen dessert) before layering it in the mold, or you can make layers of the garnishes, sprinkling them on top of each layer of ice cream after spreading it into the mold.

5. Molded frozen desserts must be frozen solid before they can be unmolded, so be sure to allow sufficient time for freezing.

6. To unmold the dessert, immerse the mold briefly in warm water and wipe dry before unmolding, or gently and quickly warm it over an open flame or using a blowtorch or blow-dryer. Invert the dessert onto the plate and gently lift the mold away, being careful not to touch the sides of the dessert.

TOP LEFT: *Leveling off the molds.*

TOP RIGHT: *Unwrapping frozen soufflés after they have set.*

BELOW LEFT: *Leveling parfait in a ring mold before freezing.*

BELOW RIGHT: *Unmolding frozen bombes.*

Filling frozen soufflé molds.

STILL-FROZEN DESSERTS

STILL-FROZEN DESSERTS ARE always molded and have more air and sugar than churned frozen dessert—this keeps them softer. A small percent of gelatin can be added to prevent them from melting too fast.

The air incorporated into the base of a frozen dessert gives it a light, smooth, spoonable texture. With still-frozen desserts, the air is incorporated before freezing rather than during as it is for churned frozen desserts. Air is incorporated into these frozen desserts as in the preparation of a mousse: Aerated ingredients such as whipped cream, meringue, or beaten egg yolks are folded into a flavored base mixture just before it is deposited into containers and frozen.

There are four basic types of still-frozen desserts: frozen soufflés, parfaits, semi freddo, and bombes. Frozen soufflés (also known as *soufflés glacées*) contain whipped cream, meringue, and a flavoring such as a liqueur, juice, or chocolate. They are traditionally served in ramekins, as are hot soufflés. To mimic the look of a hot soufflé, the ramekins for frozen soufflés are prepared with a "collar," a piece of parchment paper or aluminum foil attached to the ramekin that extends an inch or two above its top. The soufflé mixture is then piped in and leveled off with the top of the collar. The parchment collar is removed before service, creating the look of a hot soufflé.

Parfaits are basically frozen mousse, and may be made using almost any method by which a mousse is made. Classically these desserts are served in tall, narrow "parfait" glasses. The American version is layered with fruit and sauces.

Bombes are always made using a pâte à bombe (egg yolks cooked over heat as they are beaten with sugar until they are light in color and texture). The pâte à bombe is then incorporated with meringue (with or without whipped cream) and a flavoring. The term *bombe*, however, has to do with the classic domed shape of this dessert.

TOP TO BOTTOM: *Chocolate Ice Cream (page 567), Mango Sorbet (page 588), Green Tea Granita (page 601), raspberry parfait, hazelnut gelato*

VANILLA ICE CREAM

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Milk	1 lb	450 g
Heavy cream	1 lb	450 g
Sugar	7 oz	200 g
Glucose syrup	1 oz	30 g
Salt	¼ tsp	1.5 g
Vanilla bean	1	1
Egg yolks	10 oz	280 g

1. Combine the milk, cream, 3½ oz/100 g of the sugar, the glucose syrup, and salt in a saucepan. Split the vanilla bean, scrape the seeds into the pan, add the pod, and bring the mixture just to a boil over medium heat. Immediately remove from the heat, cover the pan, and let steep for 5 minutes.

2. Remove the vanilla bean pod and return to a simmer.

3. Meanwhile, blend the egg yolks with the remaining 3½ oz/100 g sugar to make the liaison. Temper by gradually adding about one-third of the hot milk mixture, whisking constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and cook, stirring constantly, until the mixture thickens enough to coat the back of a spoon (180°F/82°C).

4. Strain the ice cream base into a metal container and cool in an ice water bath. Cool to below 40°F/4°C. Cover and refrigerate for a minimum of 12 hours, or overnight.

5. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds as desired and freeze for several hours before serving or using in plated desserts.

VARIATION

CINNAMON ICE CREAM *Replace the vanilla bean with ¼ tsp/0.5 g ground cinnamon in step 1.*

CHOCOLATE ICE CREAM

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Milk	1 lb	450 g
Heavy cream	1 lb	450 g
Sugar	7 oz	200 g
Glucose syrup	1 oz	30 g
Salt	¼ tsp	1.5 g
Vanilla bean, split and scraped	1	1
Egg yolks	10 oz	280 g
Bittersweet chocolate, melted	6 oz	170 g

1. Combine the milk, cream, 3½ oz/100 g of the sugar, the glucose syrup, salt, and vanilla bean pod and seeds in a saucepan and bring just to a boil over medium heat. Immediately remove from the heat, cover the pan, and let steep for 5 minutes.

2. Remove the vanilla bean pod and return to a simmer.

3. Blend the egg yolks with the remaining 3½ oz/100 g sugar to make the liaison. Temper by gradually adding about one-third of the hot milk mixture, whisking constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and cook, stirring constantly, until the mixture thickens enough to coat the back of a spoon (180°F/82°C).

4. Remove from the heat and stir in the chocolate until smooth and fully combined. Strain into a metal container and cool in an ice water bath to below 40°F/4°C. Cover and refrigerate for a minimum of 12 hours, or overnight.

5. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

VARIATIONS

MILK CHOCOLATE ICE CREAM *Reduce the sugar to 4 oz/110 g and replace the bittersweet chocolate with 8 oz/230 g milk chocolate.*

WHITE CHOCOLATE ICE CREAM *Reduce the sugar to 3 oz/90 g and replace the bittersweet chocolate with 8 oz/230 g white chocolate.*

COFFEE ICE CREAM

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Milk	1 lb	450 g
Heavy cream	1 lb	450 g
Sugar	7 oz	200 g
Glucose syrup	1 oz	30 g
Coffee beans, coarsely ground	2 oz	60 g
Salt	¼ tsp	1.5 g
Egg yolks	10 oz	280 g

1. Combine the milk, cream, 3½ oz/100 g of the sugar, the glucose syrup, coffee beans, and salt in a saucepan and bring just to a boil over medium heat. Immediately remove from the heat, cover the pan, and let steep for 5 minutes.

2. Strain into a clean pan and return to a simmer.

3. Blend the egg yolks with the remaining 3½ oz/100 g sugar to make the liaison. Temper by gradually adding about one-third of the hot milk mixture, whisking constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and cook, stirring constantly, until the mixture thickens enough to coat the back of a spoon (180°F/82°C).

4. Strain the base into a metal container and cool in an ice water bath to below 40°F/4°C. Cover and refrigerate for a minimum of 12 hours, or overnight.

5. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

VARIATIONS

ALMOND ICE CREAM *Replace the coffee beans with 4 oz/110 g almond paste. Do not strain the steeped cream.*

CARDAMOM ICE CREAM *Replace the coffee beans with ½ oz/14 g chopped green cardamom pods.*

GREEN TEA, EARL GREY, OR CHAI ICE CREAM *Replace the coffee beans with ½ oz/14 g of green, Earl Grey, or spiced tea leaves.*

PEANUT BUTTER ICE CREAM *Replace the coffee beans with 4 oz/110 g peanut butter. Do not strain the steeped cream.*

PISTACHIO ICE CREAM *Replace the coffee beans with 4 oz/110 g pistachio paste. Do not strain the steeped cream.*

PRALINE ICE CREAM *Replace the coffee beans with 4 oz/110 g praline paste. Do not strain the steeped cream.*

STAR ANISE ICE CREAM *Replace the coffee beans with 1¼ oz/40 g toasted star anise. Do not strain the custard after cooking; leave the anise in the base during refrigeration, then strain before freezing.*

TOASTED COCONUT ICE CREAM *Replace the coffee beans with 6 oz/170 g lightly toasted unsweetened coconut.*

PEANUT BRITTLE ICE CREAM

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Ice cream stabilizer	¼ tsp	2 g
Glucose powder	2 oz	60 g
Egg yolks	7½ oz	210 g
Sugar	12 oz	340 g
Water	2½ oz	70 g
Corn syrup	2 oz	60 g
Butter	6 oz	170 g
Salt	¼ tsp	1.5 g
Heavy cream	12 oz	340 g
Whole milk	1 lb 14 oz	850 g
Vanilla bean	1	1
Nonfat dry milk	2 oz	60 g
Peanut Brittle (page 945), broken into small pieces	2 lb 12 oz	1.25 kg

1. Combine the stabilizer with the glucose powder and reserve. Combine the egg yolks with 1 oz/30 g of the sugar and reserve.

2. Combine the remaining sugar, water, and corn syrup and cook over medium heat to a medium dark caramel. Add the butter and salt and stir to combine. Slowly whisk in the cream, milk, and vanilla bean.

3. Temper the mixture into the egg yolks by gradually adding about one-third of the hot milk mixture to the yolks, whisking constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and cook, stirring constantly, until the mixture thickens enough to coat the back of a spoon (180°F/82°C).

4. Strain the base into a metal container and cool in an ice water bath to below 40°F/4°C. Blend the base using an immersion blender. Cover and refrigerate for a minimum of 12 hours, or overnight.

5. Process in an ice cream machine according to the manufacturer's instructions. Fold in the peanut brittle. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

COFFEE CARDAMOM ICE CREAM

MAKES 3 LB 10 OZ/1.64 KG

INGREDIENT	U.S.	METRIC
Heavy cream	1 lb 3 oz	540 g
Milk	1 lb 3 oz	540 g
Nonfat dry milk	2 oz	60 g
Ice cream stabilizer	½ tsp	3 g
Sugar	¾ oz	20 g
Sweetened condensed milk	14 oz	400 g
Glucose powder	3 oz	90 g
Salt	1 tsp	6 g
Coffee beans, coarsely ground	3¾ oz	110 g
Cardamom pod, roughly chopped	12	12
Cinnamon stick	1	1

1. Combine the heavy cream, milk, and milk powder in a large nonreactive saucepot. Combine the ice cream stabilizer with the sugar in a small bowl.

2. Heat the milk mixture to 100°F/37°C over high heat.

3. Whisk the stabilizer-sugar mixture into the milk mixture. Immediately, vigorously whisk in the condensed milk, glucose powder, and salt.

4. Bring the milk mixture to a simmer over medium heat. Add the coffee beans, cardamom pods, and cinnamon stick. Remove from the heat. Cover and steep for 10 minutes.

5. Strain through a fine-mesh sieve and weigh the mixture. Mixture should weigh 3 lb 10 oz/1.64 kg; if necessary, add more milk to bring back to 3 lb 10 oz/1.64 kg.

6. Check the Brix of the mixture; it should be 30° Brix.

7. Cover and chill overnight. Place a half hotel pan in freezer overnight.

8. Blend the ice cream base with an immersion blender.

9. Process in an ice cream machine according to the manufacturer's instructions and extract into the prefrozen hotel pan. Freeze for several hours before serving or using in plated desserts.

ARMAGNAC VANILLA ICE CREAM

MAKES APPROXIMATELY 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Heavy cream	12½ oz	350 g
Milk	1 lb	450 g
Light corn syrup	2¾ oz	80 g
Vanilla extract	¼ tsp	2.5 mL
Nonfat dry milk	¾ oz	20 g
Sorbet stabilizer	⅛ tsp	0.5 g
Sugar	4¼ oz	120 g
Glucose powder	½ oz	14 g
Salt	¼ tsp	1.5 g
Armagnac	1½ oz	40 g

1. Combine the cream, milk, corn syrup, and vanilla in a saucepot and heat to 180°F/82°C.

2. Meanwhile, combine the milk powder, sorbet stabilizer, sugar, glucose, and salt in a large bowl and mix together well. Pour the hot liquid over the dry ingredients. Mix well. Pour the mixture back into the saucepot.

3. Return the mixture to a boil, then maintain a simmer for at least 1 minute. Strain through a fine-mesh sieve into a metal container and cool in an ice water bath. When cool, stir in the Armagnac.

4. Cover and refrigerate for at least 24 hours.

5. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

BOURBON ICE CREAM

MAKES 1 QUART/960 ML

INGREDIENT	U.S.	METRIC
Milk	8 oz	230 g
Heavy cream	1 lb 8 oz	680 g
Salt	¼ tsp	1.5 g
Granulated sugar	3½ oz	100 g
Dark brown sugar	2 oz	60 g
Maple syrup	5½ oz	150 g
Vanilla bean	1	1
Egg yolks	6	6
Bourbon (preferably Knob Creek)	2½ oz	70 g

1. Combine the milk, cream, salt, sugars, maple syrup, and vanilla in a saucepot and bring to a boil.

2. Temper the mixture into the egg yolks by gradually adding about one-third of the hot milk mixture to the yolks, whisking constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and cook, stirring constantly, until the mixture thickens enough to coat the back of a spoon (180°F/82°C).

3. Strain the base into a metal container and cool in an ice water bath to below 40°F/4°C. Add the bourbon. Blend the base using an immersion blender. Cover and refrigerate for a minimum of 12 hours, or overnight.

4. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

CRÈME FRAÎCHE ICE CREAM

MAKES 2 LB 3 OZ/990 G

INGREDIENT	U.S.	METRIC
Milk	9¼ oz	260 g
Corn syrup	2¾ oz	80 g
Sugar	4 oz	110 g
Nonfat dry milk	1¼ oz	35 g
Sorbet stabilizer	½ tsp	2 g
Powdered glucose	½ oz	15 g
Salt	Pinch	Pinch
Crème fraîche	12¾ oz	360 g
Buttermilk	4¼ oz	120 g

1. Bring the milk and corn syrup to a boil.

2. Combine the sugar, milk powder, sorbet stabilizer, glucose, and salt.

3. Allow the milk mixture to cool to 180°F/82°C and pour over the dry ingredients. Whisk well and pour into a pan placed over medium heat. Bring to a boil for 5 seconds.

4. Remove the pan from the heat and cool the mixture over an ice bath to 80°F/27°C. Add the crème fraîche to the mixture, mixing gently, and then add the buttermilk to the base, pouring slowly.

5. Strain the base through a fine mesh strainer and age the ice cream base overnight in the refrigerator.

6. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

RASPBERRY ICE CREAM

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Heavy cream	1 lb	450 g
Sugar	7 oz	200 g
Glucose syrup	1 oz	30 g
Salt	¼ tsp	1.5 g
Egg yolks	10 oz	280 g
Raspberry purée	1 lb	450 g

1. Combine the cream, 3½ oz/100 g of the sugar, the glucose, and salt in a saucepan and bring just to a simmer over medium heat.

2. Blend the egg yolks with the remaining 3½ oz/100 g sugar to make the liaison. Temper by gradually adding about one-third of the hot cream mixture, whisking constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and cook, stirring constantly, until the mixture thickens enough to coat the back of a spoon (180°F/82°C).

3. Strain the mixture into a metal container and cool in an ice water bath to below 40°F/4°C. Cover and refrigerate for a minimum of 12 hours, or overnight.

4. Blend in the raspberry purée.

5. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

VARIATIONS

BANANA ICE CREAM *Replace the raspberry purée with an equal amount of banana purée.*

MANGO ICE CREAM *Replace the raspberry purée with an equal amount of mango purée.*

PASSION FRUIT ICE CREAM *Add 8 oz/230 g milk to the cream in step 1. Replace the raspberry purée with 8 oz/230 g passion fruit concentrate.*

PEACH ICE CREAM *Replace the raspberry purée with an equal amount of peach purée.*

STRAWBERRY ICE CREAM

MAKES 3 LB 1 OZ/1.39 KG

INGREDIENT	U.S.	METRIC
Milk	6 oz	170 g
Heavy cream	6 oz	170 g
Trimoline	2 oz	60 g
Egg yolks	8 oz	230 g
Sugar	3 oz	90 g
Strawberry purée	1 lb 8 oz	680 g

1. Combine the milk, cream, and Trimoline in a saucepan and bring just to a simmer over medium heat.

2. Blend the egg yolks with the sugar to make the liaison. Temper by gradually adding about one-third of the hot cream mixture, whisking constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and cook, stirring constantly, until the mixture thickens enough to coat the back of a spoon (180°F/82°C). Blend in the fruit purée and mix until smooth.

3. Strain the base into a metal container and cool in an ice water bath to below 40°F/4°C. Cover and refrigerate for a minimum of 12 hours, or overnight.

4. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

LEMON VERBENA ICE CREAM

MAKES 24 FL OZ/720 ML

INGREDIENT	U.S.	METRIC
Heavy cream	12½ oz	350 g
Milk	1 lb	450 g
Light corn syrup	2¾ oz	80 g
Nonfat dry milk	¾ oz	20 g
Sorbet stabilizer	⅛ tsp	1 g
Sugar	4¼ oz	120 g
Glucose powder	½ oz	14 g
Salt	¼ tsp	1 g
Lemon verbena, dried	1 tbsp	10 g

1. Combine the cream, milk, and corn syrup in a saucepot and heat to 180°F/82°C.

2. Combine the milk powder, sorbet stabilizer, sugar, glucose, and salt in a medium stainless-steel bowl.

3. Pour the boiling liquids over the dry ingredients and mix to combine.

4. Return the liquid to the saucepot and bring back to a boil.

5. Remove from the heat, add the verbena, and stir until evenly distributed. Cool to room temperature.

6. Strain through a fine-mesh sieve into a storage container. Cover and refrigerate for a minimum of 12 hours, or overnight.

7. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds as desired and freeze for several hours before serving or using in plated desserts.

RUM RAISIN ICE CREAM

MAKES 3 LB 7 OZ/1.56 KG

INGREDIENT	U.S.	METRIC
Raisins	5 oz	140 g
Dark rum	4 oz	110 g
Simple Syrup (page 1079)	4 oz	110 g
Vanilla Ice Cream (page 566)	1 recipe	1 recipe

1. Combine the raisins, rum, and simple syrup. Let the raisins marinate for 24 hours at room temperature.
2. The same day you start the raisins, follow the vanilla ice cream recipe but substitute 1 tsp/5 mL vanilla extract for the vanilla bean. Cover and refrigerate the base for a minimum of 12 hours, or overnight.
3. Process the ice cream in an ice cream machine according to the manufacturer's instructions.
4. Drain the raisins, pat dry, and mix into the ice cream after churning.
5. Pack into storage containers or molds as desired and freeze for several hours before serving or using in plated desserts.

CHOCOLATE SWIRL ICE CREAM

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Milk	1 lb	450 g
Heavy cream	1 lb	450 g
Sugar	7 oz	200 g
Glucose syrup	1 oz	30 g
Salt	¼ tsp	1.5 g
Vanilla bean, spit and scraped	1	1
Egg yolks	10 oz	280 g
Hard Ganache (page 484)	1 lb	450 g

1. Combine the milk, cream, 3½ oz/100 g of the sugar, the glucose, salt, and vanilla bean pod and seeds in a saucepan and bring just to a boil over medium heat. Immediately remove from the heat, cover the pan, and let steep for 5 minutes.

2. Remove the vanilla bean pod and return the mixture to a simmer.

3. Blend the egg yolks with the remaining 3½ oz/100 g sugar to make the liaison. Temper by gradually adding about one-third of the hot milk mixture, whisking constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and cook, stirring constantly, until the mixture thickens enough to coat the back of a spoon (180°F/82°C).

4. Strain the base into a metal container and cool in an ice water bath to below 40°F/4°C. Cover and refrigerate for a minimum of 12 hours, or overnight.

5. Process in an ice cream machine according to the manufacturer's instructions.

6. Transfer to a bowl and fold in the ganache, leaving visible streaks for a marbleized effect.

7. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

VARIATIONS

CARAMEL SWIRL ICE CREAM *Substitute Soft Caramel Filling II (page 534) for the ganache.*

FRUIT SWIRL ICE CREAM *Substitute highly reduced fruit purée for the ganache.*

SOFT CARAMEL FILLING

MAKES 1 LB 12 OZ/794 G

INGREDIENT	U.S.	METRIC
Sugar	1 lb	450 g
Lemon juice	½ tsp	2.5 mL
Heavy cream, warm	8 oz	230 g
Butter	4 oz	110 g

1. Combine the sugar and lemon juice in a heavy-bottomed saucepan and bring to a boil over high heat, stirring constantly to dissolve the sugar. Cook without stirring to a rich golden brown.

2. Slowly stir in the warm cream. Whisk in the butter.

3. Remove from the heat, transfer to a container, and cool to room temperature. Cover and store at room temperature.

BUTTERMILK ICE CREAM

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Milk	1 lb 8 oz	680 g
Heavy cream	8 oz	230 g
Sugar	8 oz	230 g
Salt	¼ tsp	1.5 g
Egg yolks	10 oz	280 g
Vanilla extract	1 tbsp	15 mL
Buttermilk	8 oz	230 g

1. Combine the milk, cream, 4 oz/110 g of the sugar, and the salt in a saucepan and bring just to a boil over medium heat.

2. Blend the egg yolks with the remaining 4 oz/110 g sugar to make the liaison. Temper by gradually adding about one-third of the hot milk mixture, whipping constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and cook, stirring constantly, until the mixture thickens enough to coat the back of a spoon (180°F/82°C).

3. Strain the mixture into a metal container and cool in an ice water bath to below 40°F/4°C. Blend in the vanilla extract and buttermilk. Cover and refrigerate for a minimum of 12 hours, or overnight.

4. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

WALNUT PRALINE ICE CREAM

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
ICE CREAM BASE		
Milk	1 lb	450 g
Heavy cream	1 lb	450 g
Sugar	7 oz	200 g
Glucose syrup	1 oz	30 g
Salt	¼ tsp	1.5 g
Walnut halves	14 oz	400 g
Vanilla bean, split and scraped	1	1
Egg yolks	10 oz	280 g
PRALINE		
Walnuts	14 oz	400 g
Granulated sugar	7 oz	200 g
Light brown sugar	2 oz	60 g
Ground cinnamon	1 tsp	2 g

1. To make the ice cream base, combine the milk, cream, 3½ oz/100 g of the sugar, the glucose, salt, and walnuts in a saucepan. Add the vanilla bean pod and seeds and bring the mixture just to a boil over medium heat. Immediately remove from the heat, cover the pan, and let steep for 5 minutes.

2. Remove the vanilla bean pod and return the mixture to a simmer.

3. Blend the egg yolks with the remaining 3½ oz/100 g sugar to make the liaison. Temper by gradually adding about one-third of the hot milk mixture, whisking constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and cook, stirring constantly, until the mixture thickens enough to coat the back of a spoon (180°F/82°C).

4. Strain the base into a metal container. Rinse and reserve the walnuts. Cool the base in an ice water bath to below 40°F/4°C. Cover and refrigerate for a minimum of 12 hours, or overnight.

5. To make the praline, lightly toast the walnuts in a 350°F/177°C oven. Chop them fine.

6. Add a small amount of the granulated sugar to a medium-hot pan set over medium heat and allow it to melt, then add the remaining granulated sugar in small increments, allowing each addition to fully melt before adding the next. Continue until all the granulated sugar has been added to the pan, and cook to the desired color. Shock the pan in an ice water bath.

7. Sprinkle in the brown sugar and cinnamon, add the chopped toasted walnuts, and stir until mixed.

8. Pour the praline onto a sheet pan that has been coated with nonstick baking spray. Allow to cool completely, then break it into pea-size pieces.

9. Process the ice cream base in an ice cream machine according to the manufacturer's instructions.

10. Transfer to a bowl and fold in the walnut praline.

11. Pack into storage containers or molds as desired and freeze for several hours before serving or using in plated desserts.

GRAHAM CRACKER ICE CREAM

MAKES 1 GAL/3.84 L

INGREDIENT	U.S.	METRIC
Graham cracker crumbs	5 oz	140 g
Milk	1 lb 6½ oz	640 g
Heavy cream	7½ oz	210 g
Invert sugar	3 oz	90 g
Salt	Pinch	Pinch
Vanilla bean, split and scraped	1	1
Egg yolks	8	8
Granulated sugar	4½ oz	130 g
Half-and-half	6 oz	170 g

1. Toast the graham cracker crumbs in a 350°F/177°C oven for 5 minutes.

2. Combine the milk, cream, invert sugar, and salt in a saucepan. Split the vanilla bean, scrape the seeds into the pan, add the pod, and bring the mixture just to a boil over medium heat. Immediately remove from the heat, cover the pan, and let steep for 5 minutes.

3. Remove the vanilla bean pod and return the mixture to a simmer.

4. Blend the egg yolks with the granulated sugar to make the liaison. Temper by gradually adding about one-third of the hot milk mixture, whisking constantly. Return the tempered egg mixture to the remaining hot milk in the saucepan and cook, stirring constantly, until the mixture thickens enough to coat the back of a spoon (180°F/82°C).

5. Strain the mixture into a metal container and cool in an ice water bath to 130°F/54°C.

6. Add the graham cracker crumbs and half-and-half. Using an immersion blender, blend until smooth, about 2 minutes.

7. Cool to below 40°F/4°C. Cover and refrigerate for a minimum of 12 hours, or overnight.

8. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving. If using for the Frozen S'mores plated dessert (page 612), pipe into molds immediately.

MINT ICE CREAM

MAKES 2 LB 2 OZ/964 G

INGREDIENT	U.S.	METRIC
Heavy cream	10 oz	280 g
Milk	1 lb	450 g
Nonfat dry milk	¾ oz	20 g
Sorbet stabilizer	¼ tsp	2 g
Sugar	4 oz	110 g
Light corn syrup	2¾ oz	80 g
Glucose powder	½ oz	14 g
Salt	Pinch	Pinch
Fresh mint	½ oz	14 g

1. Combine the heavy cream and milk and heat to 180°F/82°C. Combine the remaining ingredients, except the mint, and pour the hot cream-milk mixture over the mixed dry ingredients.

2. Return mixture to the pot and bring to a boil.

3. Strain the mixture into a metal container and cool in an ice water bath to below 40°F/4°C. Add the mint leaves and pulverize in a food processor for a minute, or until desired size. Cover and refrigerate for a minimum of 12 hours, or overnight.

4. Process the base in an ice cream machine according to the manufacturers' instructions. Pack into storage containers or molds as desired and freeze for several hours before serving or using in plated desserts.

LEMON FROZEN YOGURT

MAKES 45 FL OZ/1.35 L

INGREDIENT	U.S.	METRIC
Plain yogurt (whole-milk or low-fat)	2 lb	910 g
Lemon juice	6 oz	170 g
Sugar	6 oz	170 g
Glucose syrup	1½ oz	40 g

1. Combine all the ingredients, stirring until evenly blended.

2. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

CHOCOLATE FROZEN YOGURT

MAKES 45 FL OZ/1.35 L

INGREDIENT	U.S.	METRIC
Plain yogurt (whole-milk or low-fat)	2 lb	910 g
Sugar	4 oz	110 g
Glucose syrup	1 oz	30 g
Dark chocolate, melted	8 oz	230 g

1. Blend the yogurt, sugar, and glucose, stirring until evenly blended. Temper the melted chocolate by gradually stirring in about one-third of the yogurt mixture. Then blend the chocolate and remaining yogurt mixture together. Cover and refrigerate for a minimum of 12 hours, or overnight.

2. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

SORBET SYRUP (65° BRIX)

MAKES 5 LB 8 OZ/2.49 KG

INGREDIENT	U.S.	METRIC
Sugar	3 lb	1.36 kg
Water	2 lb	910 g
Glucose syrup	8 oz	230 g

1. Combine all the ingredients and bring to a boil, stirring occasionally.

2. Cool completely. Cover and store under refrigeration.

STRAWBERRY FROZEN YOGURT

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Plain yogurt (whole-milk or low-fat)	2 lb	910 g
Strawberry purée	12 oz	340 g
Sugar	8 oz	230 g
Glucose syrup	2 oz	60 g

1. Combine all the ingredients, stirring until evenly blended.

2. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

VARIATION

RASPBERRY FROZEN YOGURT *Replace the strawberry purée with an equal amount of raspberry purée.*

LEMON SORBET I

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Sorbet Syrup (page 583)	1 lb 4 oz	570 g
Lemon juice	15 oz	430 g
Water	13 oz	370 g

1. Combine all the ingredients and stir until evenly blended. Cover and chill thoroughly under refrigeration.

2. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

VARIATIONS

KEY LIME SORBET *Replace the lemon juice with an equal amount of Key lime juice.*

LIME SORBET *Replace the lemon juice with an equal amount of lime juice.*

CILANTRO LIME SORBET *Replace the lemon juice with an equal amount of lime juice. Add 1 oz/30 g finely chopped cilantro to the base before churning.*

NEXT PAGE: *Cilantro Lime Sorbet (page 584), Mango Sorbet (page 588), Spiced Wine Sorbet (page 594).*

LEMON SORBET II

MAKES 1 LB 15 OZ/889 G

INGREDIENT	U.S.	METRIC
Sugar	3½ oz	100 g
Sorbet stabilizer	¼ tsp	2 g
Water	1 lb ½ oz	470 g
Glucose syrup	6 oz	170 g
Lemon juice, fresh	5 oz	140 g

1. Whisk together 2 oz/60 g of the sugar and the sorbet stabilizer in a small bowl.

2. In a small pot over medium heat, bring the water, the remaining sugar, the glucose, and lemon juice to a boil.

3. Whisk in the sugar-sorbet stabilizer mixture and bring to a second boil for 2 minutes.

4. Strain the mixture into a nonreactive metal container and cool in an ice water bath to below 40°F/4°C. Cover and refrigerate for a minimum of 12 hours, or overnight.

5. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds as desired and freeze for several hours before serving or using in plated desserts.

ORANGE SORBET

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Sorbet Syrup (page 583)	14 oz	400 g
Orange juice	15 oz	430 g
Water	6 oz	170 g

1. Combine all the ingredients and stir until evenly blended. Cover and chill thoroughly under refrigeration.

2. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

VARIATION

BLOOD ORANGE SORBET *Replace the orange juice with an equal amount of blood orange juice.*

GRAPEFRUIT SORBET

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Sorbet Syrup (page 583)	12 oz	340 g
Grapefruit juice	15 oz	430 g
Water	6 oz	170 g

1. Combine all the ingredients and stir until evenly blended. Cover and chill thoroughly under refrigeration.
2. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

RED GRAPE SORBET

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Red wine	6 oz	170 g
Red grape verjus	1 lb 5¾ oz	620 g
Glucose syrup	8 oz	230 g
Lemon juice, fresh	2 tsp	10 mL
Sugar	1 oz	30 g
Sorbet stabilizer	¼ tsp	1 g
Egg whites	25	25

1. Reduce the wine in a saucepan over medium heat to 1¾ oz/50 g.
2. Combine the grape juice, glucose syrup, and lemon juice in a saucepan and allow to come to room temperature.
3. Add the reduced red wine and bring the mixture to a full boil for 10 seconds. Monitor the heat closely and stir constantly with a rubber spatula to prevent scorching.
4. Mix the sugar and stabilizer together and whisk into the hot liquid, stirring constantly.
5. Bring the mixture to a quick boil again, stirring with a rubber spatula.
6. Strain the mixture over an ice bath and cool.
7. Gently heat the fresh egg whites to 140°F/60°C in order to pasteurize them.
8. Add the pasteurize egg whites to the sorbet base and stir to incorporate.
9. Refrigerate the mixture overnight to age it.
10. Process in an ice cream machine according to the manufacturer's instructions; churn and freeze at 8°F/-13°C. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

PEACH SORBET

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Sorbet Syrup (page 583)	10 oz	280 g
Peach purée	15 oz	430 g
Water	6 oz	170 g
Lemon juice	½ oz	14 g

1. Combine all the ingredients and stir until evenly blended. Cover and chill thoroughly under refrigeration.

2. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

VARIATIONS

APRICOT SORBET *Replace the peach purée with an equal amount of apricot purée.*

GUAVA SORBET *Replace the peach purée with an equal amount of guava purée.*

KIWI SORBET *Replace the peach purée with an equal amount of kiwi purée.*

MANGO SORBET *Replace the peach purée with an equal amount of mango purée.*

PEAR SORBET *Replace the peach purée with an equal amount of pear purée.*

PRICKLY PEAR SORBET *Replace the peach purée with an equal amount of prickly pear purée.*

RASPBERRY SORBET *Replace the peach purée with an equal amount of raspberry purée.*

GRANNY SMITH APPLE SORBET I

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Sorbet Syrup (page 583)	10 oz	280 g
Granny Smith apple purée	15 oz	430 g
Water	8 oz	230 g
Lemon juice	½ oz	14 g

1. Combine all the ingredients and stir until evenly blended. Cover and chill thoroughly under refrigeration.

2. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

GRANNY SMITH APPLE SORBET II

MAKES 2 LB 6 OZ/1.08KG

INGREDIENT	U.S.	METRIC
Granny Smith apples	1 lb 14¼ oz	860 g
Ascorbic acid	1½ tsp	4 g
Simple syrup at 50° Brix	7½ oz	210 g

1. Line ten 3-in/8-cm-long, 1-in/3-cm-diameter PVC tubes with a strip of acetate. Place on a flat sheet pan lined with a silicone baking mat and freeze.

2. To juice the apples, cut the apples into sixths and pass through a professional juicer. As the juice pours out of the juicer, stir the ascorbic acid into the container into which the juice is pouring, to prevent oxidation. Mix thoroughly.

3. Strain through a fine-mesh sieve. Measure out 14 oz/400 g of the juice. Mix with the simple syrup. If necessary, check the Brix degrees using a refractometer. It should read between 28° and 30° Brix. Use simple syrup or juice to adjust the Brix if necessary.

4. Process in an ice cream machine according to the manufacturer's instructions. Once frozen pipe it into the frozen prepared tubes. Allow to harden in the freezer.

5. Reserve frozen.

BANANA SORBET

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Sorbet Syrup (page 583)	10 oz	280 g
Banana purée	15 oz	430 g
Water	10½ oz	300 g

1. Combine all the ingredients and stir until evenly blended. Cover and chill thoroughly under refrigeration.

2. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

BLACK CURRANT SORBET

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Sorbet Syrup (page 583)	10 oz	280 g
Black currant purée	15 oz	430 g
Crème de cassis	3 oz	90 g
Water	10 oz	280 g

1. Combine all the ingredients and stir until evenly blended. Cover and chill thoroughly under refrigeration.

2. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

STRAWBERRY SORBET

MAKES 11 LB/4.99 KG

INGREDIENT	U.S.	METRIC
Sugar	1 lb 6¼ oz	630 g
Sorbet stabilizer	1 tbsp	12 g
Water	2 lb 11¾ oz	1.24 kg
Glucose powder	9½ oz	270 g
Strawberry purée	6 lb 4¼ oz	2.84 kg

1. Mix 10 percent of the sugar with the stabilizer.

2. Combine the water, remaining sugar, and glucose powder in a saucepan and heat to 104°F/40°C.

3. Whisk in the stabilizer and cook the mixture to 185°F/85°C.

4. Add the strawberry purée and stir until evenly blended. Cover and chill thoroughly under refrigeration.

5. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

STRAWBERRY BASIL SORBET

MAKES 11 LB/4.99 KG

INGREDIENT	U.S.	METRIC
Strawberries, washed and hulled	2 qt	1.92 L
Sugar	10 oz	280 g
Light corn syrup	12 oz	340 g
Basil leaves	16	16
Water	1 lb 8 oz	680 g
Simple Syrup (page 1079)	As needed	As needed
Lemon juice	As needed	As needed

1. Combine the strawberries, sugar, corn syrup, and basil leaves in a large bowl and wrap tightly with plastic.

2. Place the bowl over a double boiler over medium heat and allow to "cook" until the strawberries are soft and their color begins to drain.

3. Blend the mixture in a commercial blender and strain. Add the water to the base. Using simple syrup and/or water, bring the base to 27 on the refractometer.

4. Balance the flavor with lemon juice.

5. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

BLACKBERRY SORBET

MAKES 2 LB 2 OZ/964 KG

INGREDIENT	U.S.	METRIC
Sorbet stabilizer	1 tsp	4 g
Sugar	1 oz	30 g
Blackberry purée	1 lb 14 oz	850 g
Glucose syrup	3 oz	90 g
Lemon juice	2 tsp	10 mL
Egg whites, pasteurized	2 tsp	7 g

1. In a small bowl combine the sorbet stabilizer and sugar with a dry whisk.

2. Combine the purée and glucose in a saucepan and bring to a simmer, 180°F/82°C. Stir in the sorbet stabilizer–sugar mixture and bring to a boil. Add the lemon juice.

3. Strain the mixture into a metal container in an ice water bath and allow to cool to 40°F/4°C.

4. In a small bowl over simmering water, bring the egg whites to 145°F/63°C, whisking constantly. Blend into the sorbet mixture. Cool completely.

5. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds as desired and freeze for several hours before serving or using in plated desserts.

CHOCOLATE SORBET I

MAKES 3 LB/1.36 KG

INGREDIENT	U.S.	METRIC
Water	2 lb	910 g
Sugar	4 oz	110 g
Cocoa powder	4 oz	110 g
Bittersweet chocolate, melted	9 oz	260 g

1. Combine the water, sugar, and cocoa powder in a saucepan and bring to a boil over medium heat. Remove from the heat. Blend the mixture thoroughly into the melted chocolate.

2. Strain and refrigerate until chilled.

3. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving or using in plated desserts.

CHOCOLATE SORBET II

MAKES 3 LB 3 OZ/1.44 KG

INGREDIENT	U.S.	METRIC
Chocolate, 61%, chopped	10½ oz	300 g
Sugar	10½ oz	300 g
Water	1 lb 2 oz	510 g
Vanilla bean, split and scraped	1	1
Salt	Pinch	Pinch
Cocoa powder	1½ oz	40 g
Heavy cream	12 oz	340 g

1. Place all ingredients in a large nonreactive saucepot and slowly bring to a boil over medium heat, stirring to prevent the chocolate from scorching.

2. Remove from the heat and using an immersion blender, blend for 1 minute.

3. Strain the mixture into a metal container and cool in an ice water bath to below 40°F/4°C.

4. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds as desired and freeze for several hours before serving or using in plated desserts.

COCONUT SORBET

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Sorbet Syrup (page 583)	8 oz	230 g
Coconut purée	1 lb 5½ oz	610 g
Water	2 oz	60 g
Lime juice	1 oz	30 g

1. Combine all the ingredients and stir until evenly blended. Cover and chill thoroughly under refrigeration.

2. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds and freeze for several hours before serving or using in plated desserts.

CHEF'S NOTE

Due to the high fat content of the coconut purée, the sorbet will have a smoother finished mouthfeel if it is blended in step 1 using a food processor or immersion blender to fully emulsify it.

SPICED WINE SORBET

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
POACHED FRUIT		
Apple	1	1
Pear	1	1
Water	5 oz	140 g
Sugar	2½ oz	70 g
Red wine	5 oz	140 g
Orange juice	3¼ oz	90 g
Cinnamon stick	1	1
Vanilla bean, split and scraped	1	1
Orange rind	1	1
Grapefruit, juiced	1	1
SORBET		
Poaching liquid (above)	10 oz	280 g
Sugar	1 oz	30 g
Grand Marnier	¾ oz	20 g
Red wine	3¼ oz	90 g
Apple cider	1 oz	30 g

1. To make the poached fruit, peel and dice the apple and pear into medium dice, ½ by ½ in/1 by 1 cm.

2. Combine the apple and pear with the remaining poaching ingredients in a medium saucepot. Bring to a simmer and poach the apple and pear until very tender, about 15 minutes. Drain and set the fruit aside to cool. Discard the cinnamon stick, vanilla bean pod, and rind; reserve and cool the liquid separately.

3. Place the apple and pear in a food processor with 10 oz/280 g of the poaching liquid and purée. Strain through a fine-mesh sieve using a ladle (1 oz/30 g) to push the pulp through the mesh.

4. To make the sorbet, combine 10 oz/280 g of the strained purée, the sugar, Grand Marnier, red wine, and apple cider and stir until evenly blended. Cover and chill thoroughly under refrigeration.

5. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

LYCHEE SORBET

MAKES APPROXIMATELY 20 FL OZ/600 ML

INGREDIENT	U.S.	METRIC
Lychee purée	1 lb	450 g
Sorbet Syrup (page 583)	5½ oz	160 g
Lemon juice	2 tsp	10 mL
Sorbet stabilizer	¼ tsp	1 g
Sugar	1 tsp	3 g

1. Combine the lychee purée, sorbet syrup, and lemon juice in a medium saucepot and stir until evenly blended. Cook over medium-high heat to 104°F/40°C.

2. Combine the stabilizer and sugar and add to the lychee mixture. Bring to a boil and boil for 1 minute.

3. Transfer to a nonreactive metal container and cool in an ice water bath. Cover and refrigerate for a minimum of 12 hours, or overnight.

4. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

CHEF'S NOTE

For the Pear and Thai Jewels plated dessert (page 879), immediately after extraction place about 20 fl oz/600 mL of the sorbet into a pastry bag with a 1-in/3-cm opening. Pipe 12 small mounds of sorbet directly onto a frozen sheet pan. The mounds should be only as big as the space inside the cavity of the pear. Freeze until service.

WALNUT MILK SORBET

MAKES 3 QT/2.88 L

INGREDIENT	U.S.	METRIC
Milk	6 lb	2.72 kg
Walnuts, toasted dark	2 lb 4 oz	1.02 kg
Sugar	1 lb 4 oz	570 g
Salt	1 tbsp	18 g
Sorbet stabilizer	¾ tsp	3 g

1. Combine the milk, walnuts, 1 lb/450 g sugar, and salt in a large saucepan and bring to a boil over medium heat.

2. Transfer to a food processor and carefully purée. Process to a homogeneous mixture. Strain back into the pot and return to a boil.

3. Combine the stabilizer with the remaining sugar. Add to the base and return once again to a boil.

4. Strain the mixture into a metal container and cool in an ice water bath to below 40°F/4°C.

5. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers or molds as desired and freeze for several hours before serving or using in plated desserts.

BUTTERMILK SHERBET

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Buttermilk	1 lb 5 oz	600 g
Sugar	3½ oz	100 g
Honey	1¾ oz	50 g
Plain yogurt (whole milk or low-fat)	5 oz	140 g
Vanilla bean, split and scraped	½	½

1. Combine all the ingredients in a saucepan. Heat over low heat, stirring to dissolve the sugar.

2. Transfer to a metal container and cool in an ice water bath. Cover and refrigerate until chilled.

3. Strain through a fine-mesh sieve.

4. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

CHOCOLATE SHERBET

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Water	14 oz	400 g
Milk	4 oz	110 g
Sugar	5¼ oz	150 g
Glucose syrup	1½ oz	40 g
Cocoa powder	1 oz	30 g
Chocolate-flavored liqueur	4 oz	110 g

1. Combine the water, milk, sugar, glucose, and cocoa powder in a saucepan and bring to a boil over medium heat, stirring to dissolve the sugar. Boil for 3 minutes.

2. Remove from the heat and stir in the chocolate liqueur.

3. Strain through a fine-mesh sieve into a metal container and cool in an ice water bath. Cover and refrigerate for 6 hours or until fully chilled.

4. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

VANILLA BEAN SHERBET

MAKES 24 FL OZ/720 ML

INGREDIENT	U.S.	METRIC
Milk	15 oz	430 g
Heavy cream	6 oz	170 g
Sugar	4½ oz	130 g
Water	3 oz	90 g
Light corn syrup	2¼ oz	60 g
Vanilla extract	¼ tsp	1.25 mL
Vanilla bean, split and scraped	1	1

1. Combine all the ingredients in a saucepan. Bring to a boil, stirring to dissolve the sugar.

2. Strain through a fine-mesh sieve into a metal container and cool in an ice water bath. Cover and refrigerate for a minimum of 12 hours, or overnight.

3. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

VANILLA MASCARPONE SHERBET

MAKES 4 LB/1.81 KG

INGREDIENT	U.S.	METRIC
Water	1 lb 7 oz	650 g
Granulated sugar	14 oz	400 g
Invert sugar	3½ oz	100 g
Milk	5¼ oz	150 g
Mascarpone	1 lb 1½ oz	500 g
Vanilla bean, split and scraped	2	2

1. Combine the water, granulated sugar, invert sugar, milk, and vanilla bean in a saucepan. Bring the mixture to a boil.
2. Remove from the heat, cover, and allow to steep for 10 minutes.
3. Return to a boil.
4. Strain over the mascarpone and blend together. Transfer to a metal container and cool in an ice water bath to below 40°F/4°C.
5. Process in an ice cream machine according to the manufacturer's instructions. Pack into storage containers and freeze for several hours before serving, molding, or using in plated desserts.

MANGO GRANITA

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Water	1 lb 6 oz	620 g
Mango purée	8 oz	230 g
Sugar	4 oz	110 g
Dark rum	1½ oz	40 g
Lemon juice	1½ oz	40 g

1. Stir together all of the ingredients until blended and the sugar has dissolved.
2. Pour into a prechilled hotel pan and place in the freezer. Stir with a whisk every 15 to 20 minutes until it resembles crushed ice.
3. Cover tightly and freeze until needed.

RASPBERRY GRANITA

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Raspberry purée	1 lb 8 oz	680 g
Water	1 lb 8 oz	680 g
Sugar	8 oz	230 g
Lemon juice	½ oz	14 g

1. Stir together all of the ingredients until blended and the sugar has dissolved.
2. Pour into a prechilled hotel pan and place in the freezer. Stir with a whisk every 15 to 20 minutes until it resembles crushed ice.
3. Cover tightly and freeze until needed.

FRESH GINGER GRANITA

MAKES 40 FL OZ/1.2 L

INGREDIENT	U.S.	METRIC
Ginger, peeled	2 oz	60 g
Water	2 lb	910 g
Sugar	4 oz	110 g
Lemon juice	1 oz	30 g

1. Purée the ginger with 8 oz/230 g of the water.
2. Combine the ginger purée, sugar, and the remaining 1 lb 8 oz/680 g water in a saucepan and cook over medium heat, stirring to melt the sugar, until it reaches 180°F/82°C.
3. Strain through a fine-mesh sieve, cool to room temperature, and add the lemon juice.
4. Pour into a prechilled hotel pan and place in the freezer. Stir with a whisk every 15 to 20 minutes until it resembles crushed ice.
5. Cover tightly and freeze until needed.

SOUR CHERRY GRANITA

MAKES 28 FL OZ/840 ML

INGREDIENT	U.S.	METRIC
White wine	4 oz	110 g
Honey	2 oz	60 g
Sugar	2 oz	60 g
Fresh sour cherries, pitted and puréed	1 lb	450 g

1. Stir together all of the ingredients until blended and the sugar has dissolved.

2. Pour into a prechilled hotel pan and place in the freezer. Stir with a whisk every 15 to 20 minutes until it resembles crushed ice.

3. Cover tightly and freeze until needed.

GREEN TEA GRANITA

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Sugar	6 oz	170 g
Water	1 lb 12 oz	790 g
Green tea bags	4	4
Lemon juice	1 oz	30 g

1. Combine the sugar and water and bring to a boil, stirring to dissolve the sugar. Add the tea bags, remove from the heat, and steep for 20 minutes.

2. Remove the tea bags and strain through a fine-mesh sieve if necessary. Add the lemon juice to taste, if desired.

3. Pour into a prechilled hotel pan and place in the freezer. Stir with a whisk every 15 to 20 minutes until it resembles crushed ice.

4. Cover tightly and freeze until needed.

RED WINE AND CITRUS GRANITA

MAKES 48 FL OZ/1.44 L

INGREDIENT	U.S.	METRIC
Water	1 lb 8 oz	680 g
Red wine	14 oz	400 g
Sugar	10 oz	280 g
Orange juice	6 oz	170 g
Lemon juice	6 oz	170 g
Vanilla bean, split and scraped	1	1

1. Combine all the ingredients in a saucepan. Bring to a boil. Reduce the heat and simmer for 4 to 5 minutes to blend the flavors.

2. Pour into a metal container and refrigerate until fully chilled, approximately 6 hours.

3. Strain into a prechilled hotel pan and place in the freezer. Stir with a whisk every 20 to 30 minutes until it resembles crushed ice.

4. Cover tightly and freeze until needed.

LILLET GRANITÉ

MAKES 2 LB 14 OZ/1.3 KG

INGREDIENT	U.S.	METRIC
Lemon juice	3¾ oz	110 g
Simple syrup (at 65° Brix)	10½ oz	300 g
Lillet Blanc	1 lb 5¼ oz	600 g
Water	10½ oz	300 g

1. Before beginning to mix, make sure that all of the ingredients are at about 65°F/18°C.

2. Mix together all of the ingredients until homogeneous. The granite should be at 17° Brix. Adjust the base with simple syrup or lemon juice to achieve the appropriate Brix.

3. Place in a 4-in/10-cm-deep hotel pan and freeze for 1 hour. After 1 hour, begin to scrape any ice that has formed around the sides of the hotel pan, using a fork.

4. Scrape every 15 to 30 minutes until the entire mixture has frozen.

5. Just before use, lightly fluff with a fork to give the granite more volume.

LEMON SEMIFREDDO WITH BLUEBERRIES

MAKES 10 SERVINGS

INGREDIENT	U.S,	METRIC
Walnut Crust (page 238)	1 lb	450 g
Lemon Semifreddo (page 605)	10	10
Whipped cream	10 oz	280 g
Lemon Curd Chips (page 1075)	30	30
Blueberry Compote (page 505)	10 oz	280 g

1. Roll the walnut crust into a rectangle ¼ in/0.6 cm thick. Cut out ten cookies out using a 2-in/5-cm fluted ring cutter. Place the cookies on a parchment-lined sheet pan.

2. Bake the cookies in a 350°F/175°C oven until golden brown, 6 to 8 minutes. Cool to room temperature.

3. For each dessert, place a walnut cookie on a plate. Unmold one of the lemon semifreddos from the PVC mold and place in the center of the cookie.

4. Make a quenelle with 1 oz/30 g whipped cream and place on top of the semifreddo.

5. Press 3 lemon curd chips to the semifreddo to adhere. Spoon 1 oz/30 g blueberry compote around the dessert.

LEMON SEMIFREDDO

MAKES 1 LB 9 OZ/709 G

INGREDIENT	U.S.	METRIC
Heavy cream	12 oz	340 g
Gelatin, sheet	2	2
Egg yolks	6	6
Sugar	3½ oz	100 g
Lemon juice	3 oz	90 g
Champagne	2½ oz	70 g
Lemon, grated zest	1 tbsp	9 g
Salt	Pinch	Pinch

1. Prepare ten 2-in/5-cm-high, 2-in/5-cm-diameter PVC molds with acetate sheets by wrapping an acetate sheet around the center of the PVC mold.

2. Whip the heavy cream to soft peaks. Reserve under refrigeration, covered.

3. Bloom the gelatin sheets in cold water in a small bowl for about 5 minutes or until they become pliable.

4. Place the egg yolks and sugar in the bowl of a mixer and whisk together until combined. Heat over simmering water, whisking vigorously, until mixture reaches 140°F/60°C.

5. Place the egg yolk mixture on the mixer and whip with the whip attachment on high speed until mixture becomes pale, 6 to 8 minutes.

6. Combine the lemon juice, Champagne, zest, and salt in a small bowl.

7. Drain the gelatin and squeeze out excess water. Combine with one-quarter of the Champagne mixture in a small nonreactive saucepot and melt over low heat. Transfer to a medium bowl and temper in one-third of the remaining Champagne mixture. Add the rest of the Champagne mixture and stir to combine.

8. Fold the gelatin mixture into the pâte à bombe. Fold in half of whipped cream until combined. Fold in the rest of the whipped cream.

9. Place semifreddo into a piping bag and pipe into the PVC molds, filling them to the top. Using a small offset spatula, gently level off the top of the molds.

10. Place in freezer and freeze until completely frozen, at least 4 hours.

WHITE CHOCOLATE MINT SEMIFREDDO

MAKES 2 LB 3 OZ/993 G

INGREDIENT	U.S.	METRIC
Pâte à glacer	As needed	As needed
Gelatin sheets, silver	2	2
Sugar	6 oz	170 g
Egg yolks	6 oz	170 g
White chocolate, melted	6 oz	170 g
Crème de menthe	1½ oz	40 g
Mint extract	1 tsp	5 mL
Heavy cream, whipped to barely soft peaks	1 lb 9 oz	710 g
Dark chocolate, finely chopped	6 oz	170 g
Chocolate Sorbet II (page 593)	As needed	As needed
Swiss Meringue Disks (page 477)	12	12

1. Make twelve paper cones, making sure the tip of the paper cones is extremely tight.

2. Melt the pâte à glacer and pipe a small amount into the bottom of each cone.

3. Tilt the cone to make three petals with the pâte à glacer.

4. Bloom the gelatin in cold water, about 6 minutes.

5. Combine the sugar and egg yolks in the bowl of a mixer and heat over simmering water, whisking vigorously, until the mixture reaches 145°F/63°C.

6. Place the bowl on the mixer and whip with the whip attachment on medium speed until thick and cooled to room temperature, 8 to 10 minutes.

7. While the egg mixture is whipping, if necessary rewarm the white chocolate to 110°F/43°C.

8. Drain the gelatin, squeeze out excess water, and place the gelatin and crème de menthe in a small nonreactive saucepot. Heat to 130°F/54°C. Add the mint extract. Whisk into the white chocolate.

9. Transfer the white chocolate mixture to a large bowl. Whisk in one-third of the egg mixture, working quickly to prevent the chocolate from seizing. Fold in the remaining egg mixture quickly. Fold in the whipped cream. Fold in the chopped chocolate last.

10. Pipe enough semifreddo, about 1¾ oz/50 g, into each paper cone so that there is a 1-in/3-cm area of space between the mixture and the lowest curve of the cone.

11. If necessary, soften the chocolate sorbet to a spreadable consistency with the dough hook in the bowl of a mixer.

12. Pipe enough of the chocolate sorbet on top of the semifreddo so that it reaches almost to the top of the lowest curved edge on the paper cones.

13. Place a meringue disk in the center of each chocolate sorbet.

14. Freeze overnight.

FROZEN CHOCOLATE BOMBE

MAKES 20 INDIVIDUAL DOMES (6 FL OZ/180 ML EACH)

INGREDIENT	U.S.	METRIC
Heavy cream	1 lb 8 oz	680 g
Bittersweet chocolate, finely chopped	9 oz	260 g
Egg yolks	9 oz	260 g
Sugar	6 oz	170 g
Vegetable oil	½ oz	14 g
Vanilla Sponge (page 288) circles, 3⁄16 in/0.5 cm thick and 2½ in/6 cm in diameter	20 disks	20 disks

1. Whip the cream to soft peaks, cover, and refrigerate.

2. Place the chocolate in a stainless-steel bowl over barely simmering water and melt to 140°F/60°C, stirring until smooth. Keep warm.

3. Make a pâte à bombe with the egg yolks and sugar.

4. Gently stir the oil into the hot chocolate. Fold the chocolate mixture into the pâte à bombe with a whisk until smooth.

5. Add the reserved whipped cream to the chocolate mixture and fold in rapidly but thoroughly with a whisk.

6. Fill the desired molds almost to the rim. Top each with a disk of vanilla sponge. Cover and freeze immediately.

VARIATIONS

FROZEN FRUIT BOMBE *Substitute 1 lb/450 g fruit purée for the chocolate.*

FROZEN LEMON BOMBE *Substitute 8 oz/230 g lemon juice for the chocolate.*

FROZEN MAPLE BOMBE *Replace the sugar with 1 lb 9 oz/710 g maple syrup. Omit the chocolate.*

FROZEN ORANGE, HAZELNUT, OR ALMOND LIQUEUR BOMBE *Replace the chocolate with 1 lb/450 g of the chosen liqueur, prepared as follows: Heat the liqueur and ignite it. When the flames die down, cool completely and add another 2 oz/60 g of the same liqueur.*

FROZEN PISTACHIO, ALMOND, OR PEANUT BUTTER BOMBE *Substitute 8 oz/230 g pistachio paste, praline paste, or peanut butter for the chocolate.*

ORANGE LIQUEUR SOUFFLÉ GLACÉE

MAKES 12 SERVINGS (4½ FL OZ/135 ML EACH)

INGREDIENT	U.S.	METRIC
Eggs	8 oz	230 g
Egg yolks	6 oz	170 g
Sugar	4½ oz	130 g
Orange liqueur	4 oz	110 g
Gelatin, granulated	¼ oz	7 g
Water	1½ oz	40 g
Heavy cream, whipped to soft peaks	1 lb	450 g

1. Cut twelve strips (2 by 11 in/5 by 28 cm) of parchment paper or aluminum foil. Wrap each one around a 4½-fl oz/135-mL ramekin and fasten with tape. Place the ramekins on a sheet pan and place in the freezer until thoroughly chilled.

2. Combine the eggs, egg yolks, sugar, and orange liqueur in a mixer bowl and whisk constantly over simmering water until the mixture reaches 165°F/74°C.

3. Transfer the bowl to the mixer and whip the eggs with the whip attachment on high speed until three times their original volume and no longer increasing in volume.

4. Meanwhile, bloom the gelatin in the water. Squeeze out excess water and melt it.

5. Fold the gelatin into the egg mixture. Fold in the whipped cream.

6. Pour the mixture into the prepared molds, level, and freeze.

CHOCOLATE PARFAIT

MAKES 4 LB/1.81 KG

INGREDIENT	U.S.	METRIC
Egg yolks	9 oz	260 g
Water	4¼ oz	120 g
Sugar	4½ oz	130 g
Bittersweet couverture chocolate, 70%	14 oz	400 g
Heavy cream, whipped to soft peaks	2 lb 2 oz	960 g

1. Place the egg yolks in the mixer and beat with the whip attachment on high speed until light and fluffy, about 5 minutes.

2. Combine the water and sugar in a saucepan and bring to a boil over medium-high heat, stirring to dissolve the sugar. Continue to cook without stirring until the mixture reaches 260°F/127°C; brush down the sides of the saucepan occasionally with a dampened pastry brush.

3. Melt the chocolate to 135°F/57°C and set aside.

4. With the mixer on medium speed, carefully pour the cooked sugar syrup into the egg yolks in a fine stream, then beat until cooled to room temperature.

5. Gently fold the melted chocolate into the egg yolk mixture. Fold in the whipped cream.

6. Fill the prepared molds to the top and smooth the tops. Freeze until set.

CHOCOLATE HAZELNUT PARFAIT

MAKES 10 SERVINGS (4 FLOZ/120 ML EACH)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	1 lb	450 g
Gelatin, granulated	1 tsp	3 g
Water	2 oz	60 g
Sugar	4½ oz	130 g
Eggs	1½ oz	40 g
Egg yolks	3¼ oz	90 g
Dark chocolate, melted	1¾ oz	50 g
Hazelnut paste	3¼ oz	90 g
Brandy	½ oz	14 g
Vanilla extract	2 drops	2 drops
Nougatine, finely ground	¾ oz	20 g
Heavy cream, whipped to medium peaks	12 oz	340 g
Brandied cherries, pitted	20	20

1. Roll the cookie dough to a thickness of ⅛ in/0.3 cm. Cut out 10 rounds using a 3-in/8-cm cutter. Transfer the cookies to a parchment-lined sheet pan. Bake at 350°F/177°C for 10 minutes or until golden brown. Cool completely on racks.

2. Place the 3-in/8-cm dome-shaped silicone-coated flexible fiberglass molds in the freezer until thoroughly chilled.

3. Bloom the gelatin in 1 oz/30 g of the water, then melt. Cool to 100°F/38°C. Reserve.

4. Combine the sugar and the remaining 1 oz/30 g water in a small heavy-bottomed saucepan and cook over medium heat, stirring to dissolve the sugar. Continue to cook without stirring until the mixture reaches 248°F/120°C.

5. Meanwhile, beat the eggs and egg yolks on high speed in a mixer fitted with the whip attachment until light in texture and color, about 5 minutes.

6. With the mixer on medium speed, carefully pour the cooked sugar syrup into the egg yolks in a fine stream, then beat until cooled to room temperature.

7. Blend the reserved gelatin into the egg yolk mixture. Blend in the melted chocolate, hazelnut paste, brandy, vanilla extract, and nougatine. Fold in the whipped cream.

8. Using a pastry bag fitted with a #8 plain tip, pipe 3 oz/90 g of the parfait into each of the molds, filling them three-quarters full.

9. Place two cherries in the center of each parfait. Place a cookie on top of each parfait; the cookie should be flush with the top of the mold.

10. Cover the parfaits and freeze overnight.

PRALINE PARFAIT

MAKES 15 SERVINGS (6 FLOZ/180 ML EACH)

INGREDIENT	U.S.	METRIC
Egg yolks	15 oz	430 g
Sugar	12 oz	340 g
Glucose syrup	1½ oz	40 g
Water	6 oz	170 g
Praline paste	8 oz	230 g
Heavy cream, whipped until just thickened	2 lb	910 g

1. Place the egg yolks in the mixer and beat with the whip attachment on high speed until light and fluffy, about 5 minutes.

2. Combine the sugar, glucose, and water in a saucepan and bring to a boil over medium-high heat, stirring to dissolve the sugar. Continue to cook without stirring until the mixture reaches 260°F/127°C; brush down the sides of the saucepan occasionally with a dampened pastry brush.

3. With the mixer on medium speed, carefully pour the cooked sugar syrup into the egg yolks in a fine stream, then beat until cooled to room temperature.

4. Gently fold the praline paste into the egg yolk mixture. Fold in the whipped cream.

5. Fill the desired molds to the top and smooth the tops. Freeze until set.

VARIATION

MAPLE PARFAIT *Replace the sugar and water with 1 lb 9 oz/710 g maple syrup.*

FROZEN LEMON SAVARIN

MAKES 10 SERVINGS (4 FL OZ/120 ML EACH)

INGREDIENT	U.S.	METRIC
Gelatin, granulated	1 tsp	3 g
Water	1¾ oz	50 g
Vanilla Sponge (page 288), ⅛-in/0.3-cm thick	Half sheet pan	Half sheet pan
Light corn syrup	¾ oz	20 g
Sugar	4½ oz	130 g
Egg whites	2½ oz	70 g
Lemon juice	3 oz	90 g
Lemon zest, grated	2 tsp	9 g
Plain yogurt (whole milk or low-fat)	2½ oz	70 g
Heavy cream, whipped to soft peaks	12 oz	340 g

1. Place 10 savarin molds on a sheet pan and place in the freezer until thoroughly chilled.

2. Bloom the gelatin in ¾ oz/20 g of the water, then melt.

3. Using a 3-in/8-cm round cutter, cut 10 disks of cake. Reserve.

4. Combine the corn syrup, 3 oz/90 g of the sugar, and the remaining 1 oz/30 g water in a saucepan and bring to a boil, stirring to dissolve the sugar. Continue to cook without stirring until the mixture reaches 240°F/116°C.

5. When the sugar syrup has reached approximately 230°F/110°C, begin to whip the egg whites with the whip attachment on medium speed, until frothy. Gradually add the remaining 1½ oz/40 g sugar and whip to soft peaks.

6. When the sugar syrup reaches 240°F/116°C, add it to the meringue in a slow, steady stream while whipping on medium speed. Whip on high speed to stiff peaks, then whip on medium speed until cooled to room temperature.

7. Add the lemon juice and zest to the gelatin. Blend the mixture into the meringue. Fold in the yogurt, then the whipped cream.

8. Using a pastry bag fitted with a #4 plain tip, pipe 2¼ oz/60 g of the parfait into each of the 10 chilled savarin molds, filling them nearly full.

9. Place a disk of vanilla sponge over each parfait; the disk should be flush with the top of the mold.

10. Cover the savarins and freeze overnight.

FROZEN S'MORES

MAKES 10 SERVINGS

INGREDIENT	U.S.	METRIC
GRAHAM CRACKER CRUST		
Graham cracker crumbs	4½ oz	130 g
Melted butter	2¼ oz	60 g
Sugar	½ oz	14 g
Salt	Pinch	Pinch
S'MORES		
Graham Cracker Ice Cream (page 581)	30 fl oz	900 mL
Smoked Milk Chocolate Caramel Sauce (page 501)	5 fl oz	150 mL
White Sauce (page 496)	2 fl oz	60 mL
Chocolate Sauce (page 500)	2½ fl oz	75 mL
Vanilla Italian Meringue (page 478)	20 fl oz	600 mL
Chocolate Graham Décor (page 1019)	10	10
Chocolate Beignets with Truffles (page 251)	10	10

1. Place ten 2 by 2-in/5 by 5-cm ring molds on a parchment-lined sheet pan.

2. Combine all of the ingredients for the graham cracker crust by hand in a large bowl. The mixture should hold together when squeezed but should not be wet.

3. Portion the graham cracker crust among the ring molds. The graham cracker crust should be ¼-inch/0.6-cm thick in each mold. To press down flat, use the end a dowel rolling pin.

4. Pipe the ice cream into the prepared molds and even off the top with an offset spatula. Freeze until completely hardened.

5. To plate each dessert: Place 1 tbsp/15 mL smoked milk chocolate caramel sauce into the center of a plate. Pipe 1 tsp/5 mL white sauce in a ring around the milk chocolate sauce. Pipe 1½ tsp/7.5 mL chocolate sauce in a ring around the white sauce. Swirl the sauces together, using a toothpick.

6. Remove one of the ice cream tubes from the PVC mold. Working quickly, smooth approximately 2 fl oz/60 mL Italian meringue around the ice cream in an even layer. Brown the meringue with a blowtorch and place in the center of the milk chocolate sauce.

7. Place one of the chocolate décor squares on top of the meringue and put a chocolate beignet on top of the décor. Serve immediately.

FROZEN ESPRESSO AND VANILLA BOMBE

MAKES 48 INDIVIDUAL DOMES (6 FL OZ/180 ML EACH)

INGREDIENT	U.S.	METRIC
VANILLA MIX		
Heavy cream	2 lb	910 g
Vanilla bean, seeds only	2	2
Egg yolks	12 oz	340 g
Sugar	8 oz	230 g
Water	2 oz	60 g
Light corn syrup	½ oz	14 g
ESPRESSO MIX		
Heavy cream	1 lb	450 g
Egg yolks	7 oz	200 g
Sugar	4 oz	110 g
Water	1 oz	30 g
Light corn syrup	1½ tsp	10 g
Coffee extract	1¾ oz	50 g
Espresso powder	1 tbsp	6 g
ASSEMBLY		
Caramelized nuts	As needed	As needed
Vanilla Sponge (page 288),⅛ in/0.3cm thick, cut into 2½-in/6-cm disks	48	48

1. To prepare the vanilla mix, whip the cream to medium peaks, cover, and refrigerate.

2. Add the vanilla bean seeds to the egg yolks, sugar, water, and corn syrup and make a pâte à bombe.

3. Fold in the reserved whipped cream. Transfer to a pitcher, cover, and reserve under refrigeration.

4. To prepare the espresso mix, whip the cream to medium peaks, cover, and refrigerate.

5. Make a pâte à bombe with the egg yolks, sugar, water, and light corn syrup. Beat in the coffee extract and espresso powder.

6. Gently fold in the reserved whipped cream using a rubber spatula. Do not overmix. Transfer to a pitcher, cover, and reserve under refrigeration.

7. Pour the two mixes into each mold at the same time. Fill each mold almost to the top, two-thirds full with the vanilla mix and one-third full with the espresso mix, to make a marbled effect. Drop a few caramelized nuts in each mold; they should sink. Cover each mold with a disk of vanilla sponge. Cover and freeze overnight.

PART FOUR

ASSEMBLING AND FINISHING

15

PIES, TARTS, AND FRUIT DESSERTS

Desserts and pastries such as pies, tarts, strudel, and cobblers give the pastry chef or baker the opportunity to showcase the natural, vibrant flavors of fruits and nuts as well as the sweetness and texture of cheeses and dairy products used to make creams and custards. When creating desserts of this type, think of what spices and preparation techniques will enhance and complement the textures, shapes, and flavors of these ingredients.

ROLLING OUT DOUGH AND LINING A PIE OR TART PAN

1. Make sure the dough is chilled before rolling, because if the butter or other fat in the crust becomes too soft, the dough will be difficult to handle. If necessary, massage the chilled dough or work it with the rolling pin until it is a malleable consistency.

2. Usually the dough is rolled out directly on a work surface that has been dusted lightly with flour. Bread flour is the best choice for dusting. Because it is lower in starch and has a slightly more granular texture than other types of flour, bread flour dusts a surface more evenly with less clumping. Occasionally confectioners' sugar is used for dusting the work surface, typically for doughs with a higher sugar content. Dust the work surface very lightly, thus preserving the dough's delicate texture and crumb, to ensure that very little additional flour or sugar is incorporated into it, and to avoid clumps of flour that can become embedded and baked into it. Lightly dust the dough as well, to prevent it from sticking to the rolling pin.

3. Roll the dough from the center out. Lift and turn the dough as you roll so that you are rolling in all directions. This will keep the dough of even thickness and shape. Lifting and turning the dough will also help to keep it from sticking to the work surface and will reduce the amount of dusting necessary. To lift larger or more delicate pieces of dough, lay the dough over the rolling pin to keep it from tearing.

4. Work quickly and carefully. Dough for pies and tarts should be rolled to a thickness of ⅛ in/0.3 cm. Rolling out the dough slowly will allow the fat to become too soft and make it more likely to tear. Particularly delicate or tender doughs may have to be refrigerated intermittently during rolling to prevent that from occurring. This added step is often

LEFT: *Begin rolling the dough, working from the center outward.*

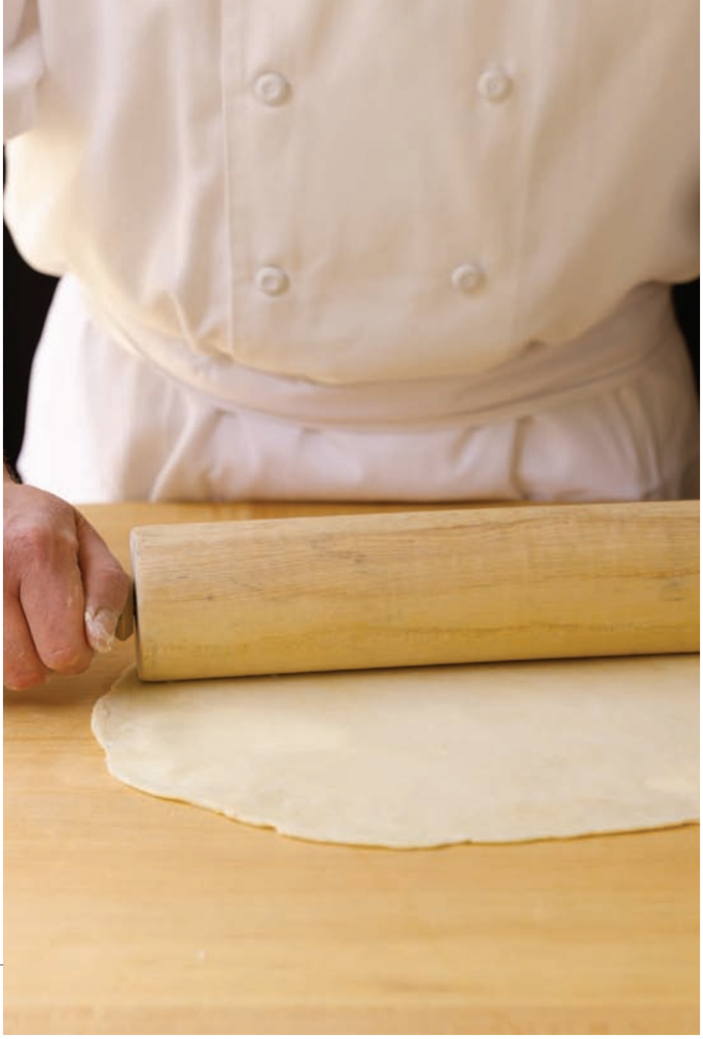
RIGHT: *Rotate the dough occasionally as you work.*

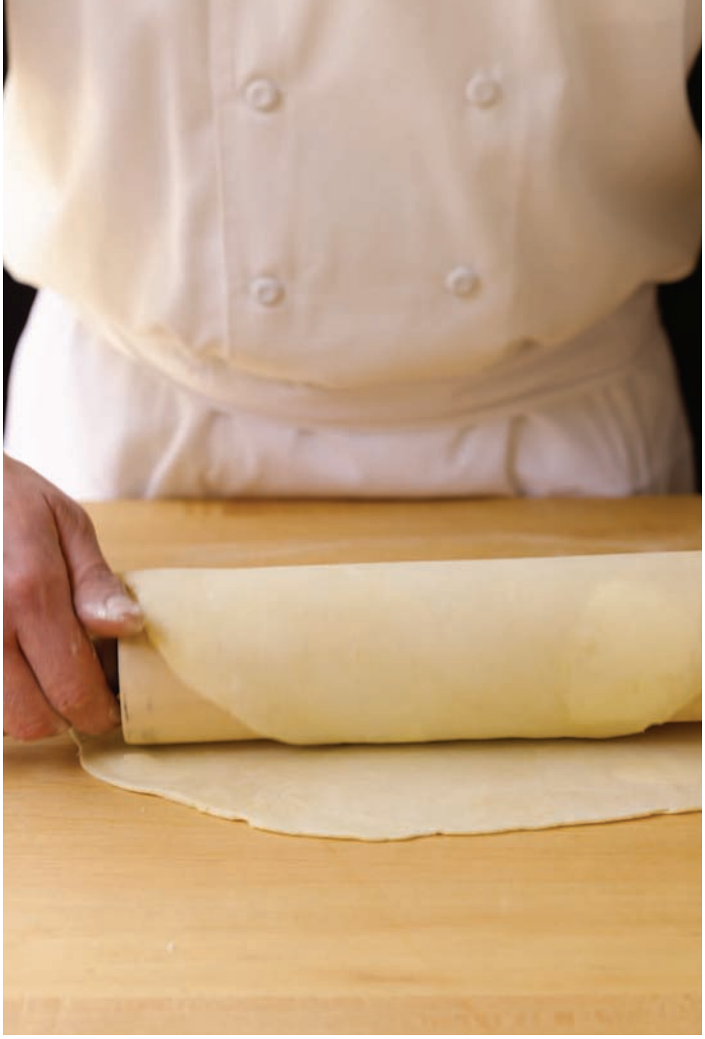
TOP LEFT: *Roll out the dough evenly into a round large enough to line the pie plate.*

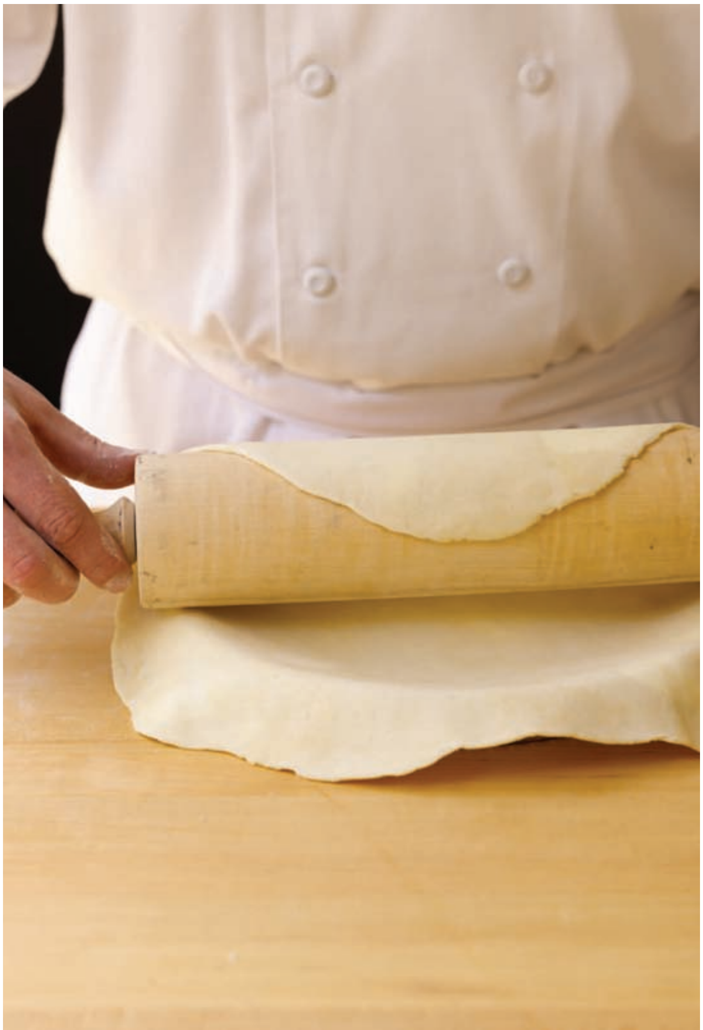
TOP RIGHT: *Roll the dough onto the rolling pin.*

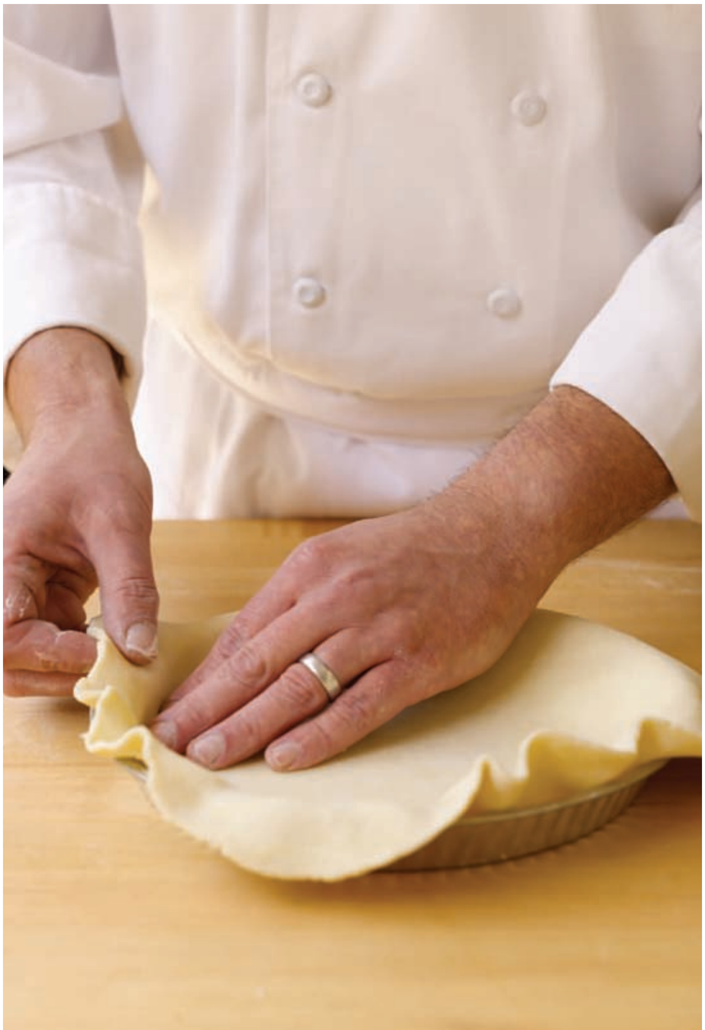
BELOW LEFT: *Gently roll the dough off the rolling pin and into the pie plate.*

BELOW RIGHT: *Press the dough into the pie plate, allowing the excess to hang over the edge.*









necessary when making a lattice top, which requires extra handling of the dough. If the dough tears while you are rolling it, simply patch the tear with a small scrap of dough and roll over it so that it becomes incorporated. If the dough is too thick, it may not bake through, and too much dough can overwhelm the flavors of the filling.

5. To transfer the rolled dough to the pie or tart pan, carefully roll it around the rolling pin, then gently unroll it over the pan. Gently press the dough into the pan, being careful not to tear or stretch the dough. Trim the edge of the dough so that it fits perfectly into the pan. Dock the bottom of the crust when necessary to prevent it from bubbling up. Docking is done by piercing the bottom of a crust in order to allow steam to escape during baking; the escape of steam through the holes in the crust helps to keep the dough flat and even.

TOPPING PIES AND TARTS

THE TREATMENT OF THE top of a pie or tart makes it more interesting and appealing. Typically, toppings of dough or crumb for pies and tarts are used with fruit fillings. Topping a pie or tart helps to prevent the filling from drying during baking by keeping in moisture. Too much moisture, however, can be a bad thing. To prevent excessive moisture buildup and/or retention, cut steam vents into the top of a double-crust pie to allow steam to escape during baking. This will also allow the top crust to develop a crisp, flaky texture.

Crumb toppings create less of a moisture barrier, allowing for the release of steam during baking, and therefore do not require vents. Crumb toppings are quick and easy and add a different flavor and texture from crusts made of pastry dough. A pastry top may completely cover the pie or tart or may be cut into strips and woven to create a lattice pattern. Pastry doughs may also be rolled and cut into shapes used to adorn the top or edges of a pie or tart. Crimping the edges of a pie is another way to add a decorative element, and for double-crusted pies and tarts it also serves to seal in the filling and seal the top and bottom crusts together.

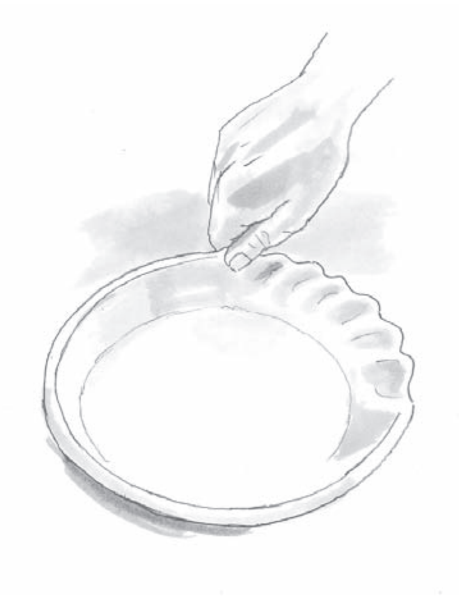
Many bakers and pastry chefs apply a wash to the top and edges of their pies and tarts to promote the development of a golden brown crust. The wash may be anything from milk or cream to egg wash. For additional sweetness and texture, add a sprinkling of coarse sugar after applying the wash. If you choose to use a wash, use a pastry brush to apply it in a thin, even coat. Some like to apply two coats before baking to promote better shine and browning; apply the first coat of the wash, allow it to dry for 3 to 5 minutes, and then apply the final coat.

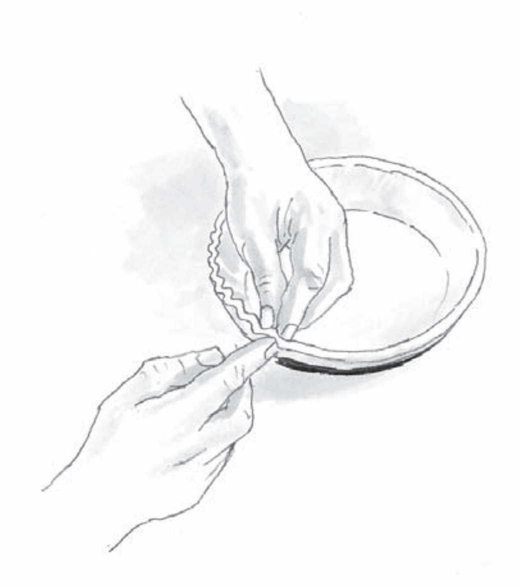
TOP LEFT: *Finishing a tart or pie with a crumb topping adds flavor as well as texture.*

TOP RIGHT: *Egg wash the edge of the bottom crust.*

BELOW LEFT : *Gently top the pie with the second crust.*

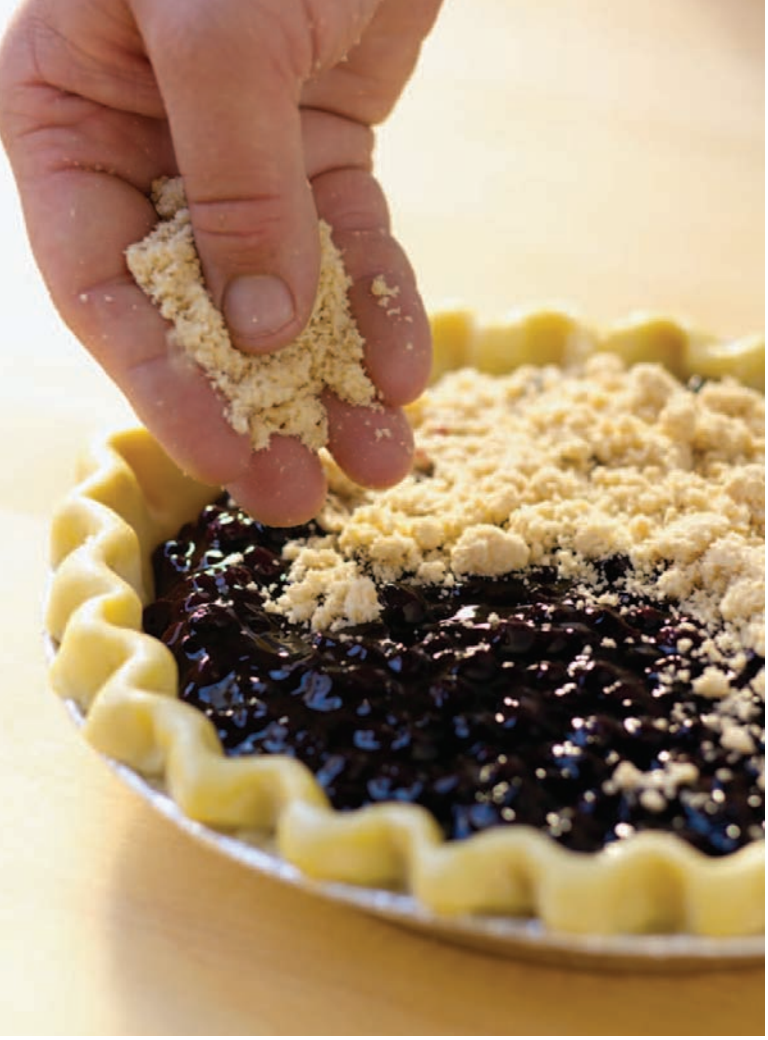
BELOW RIGHT: *Trim and remove the excess dough.*

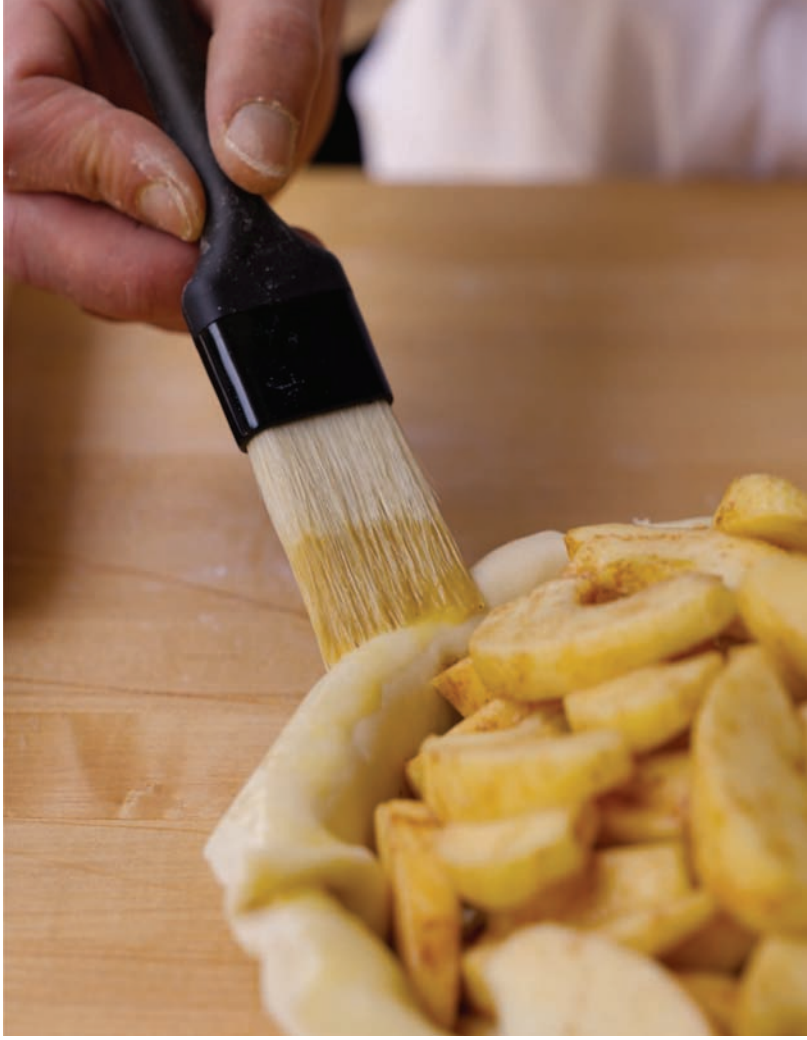


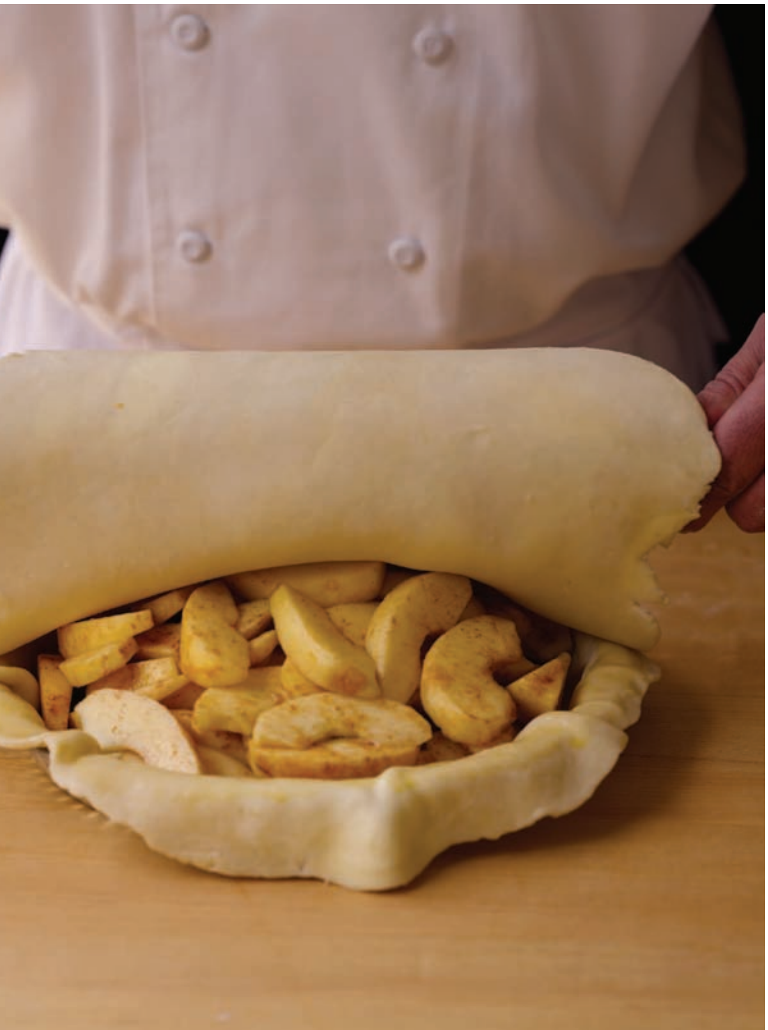


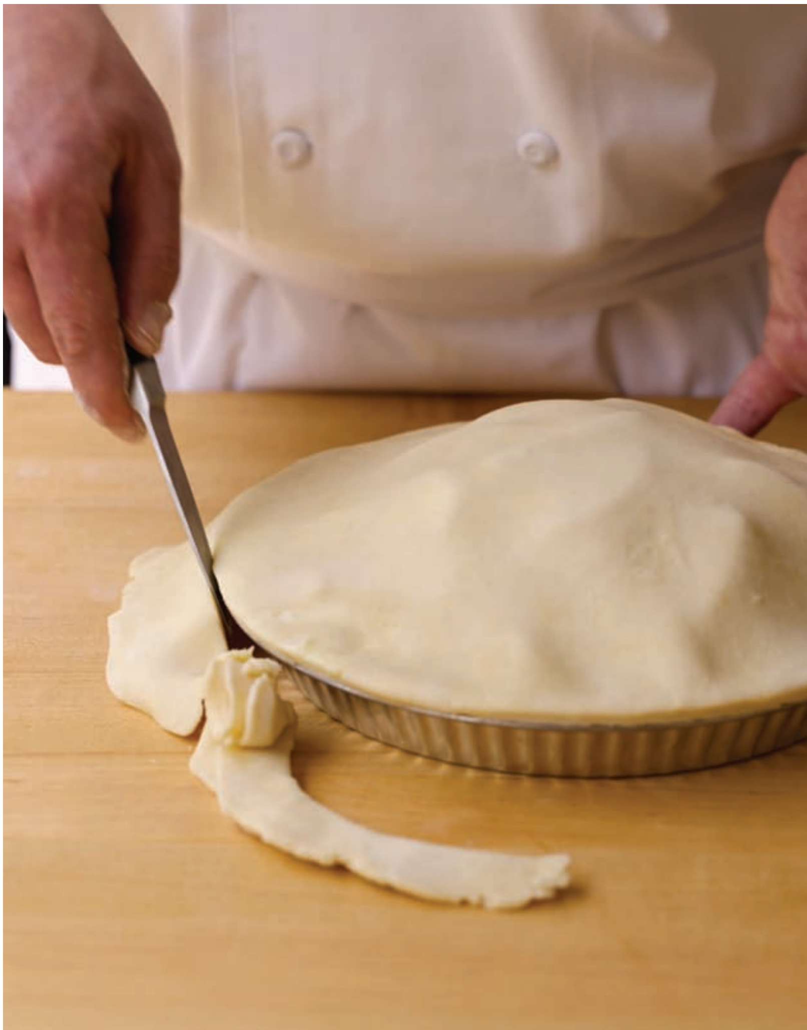
LEFT: *Crimping method one*

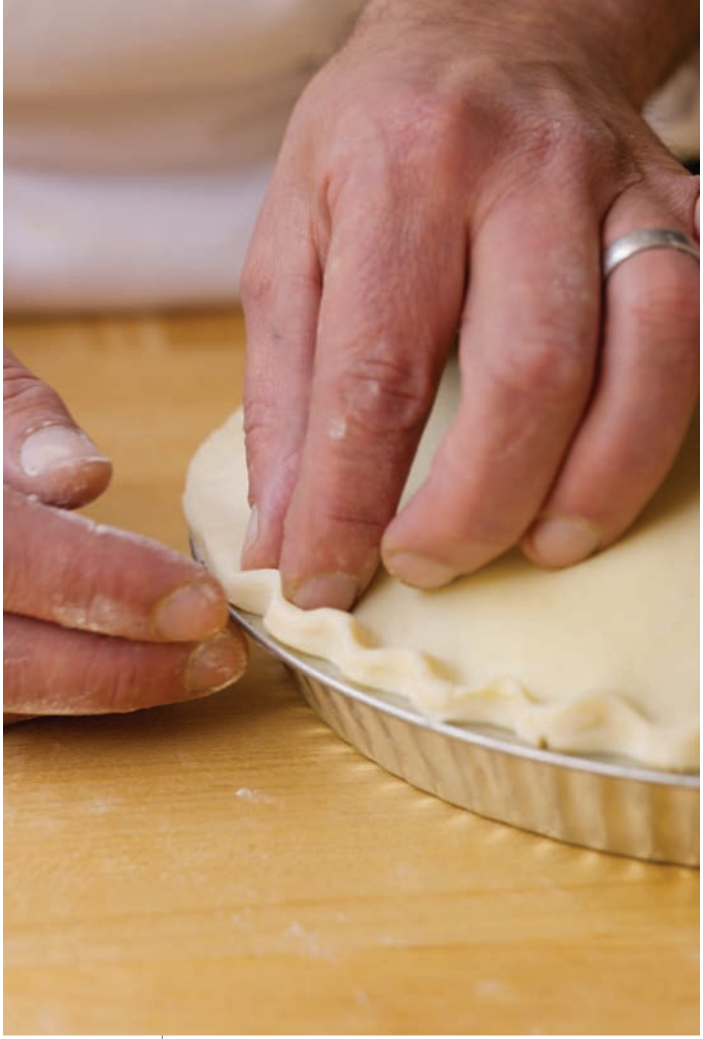
RIGHT: *Crimping method two*

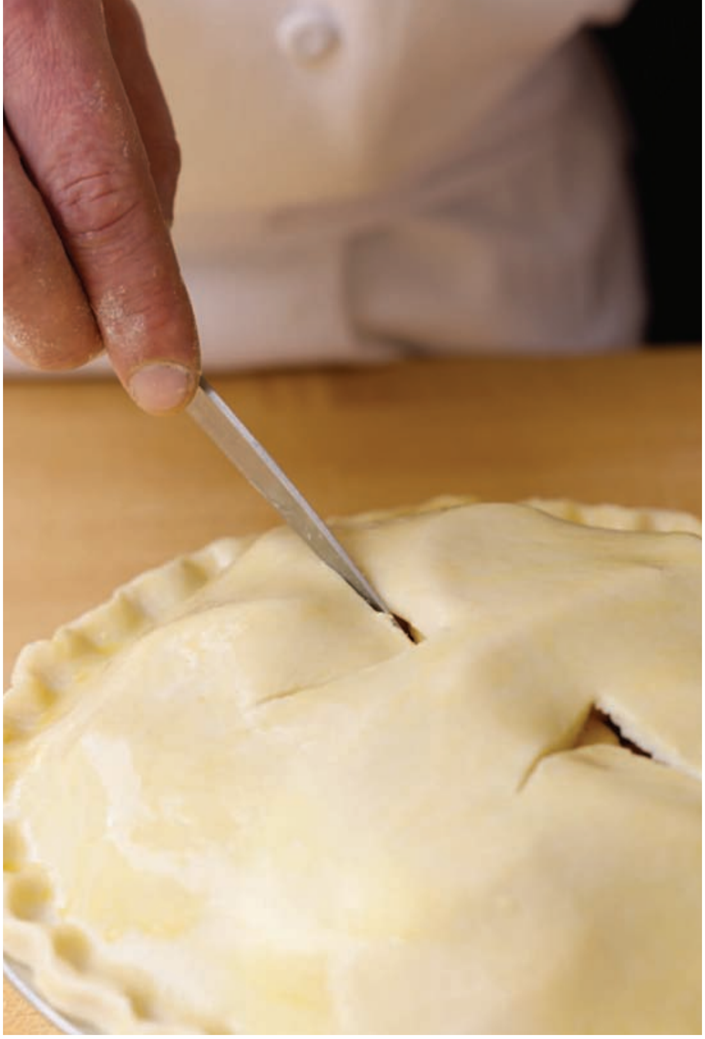






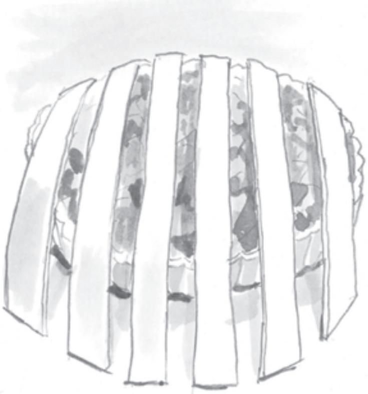


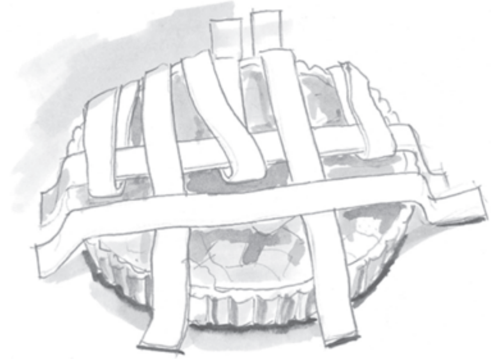


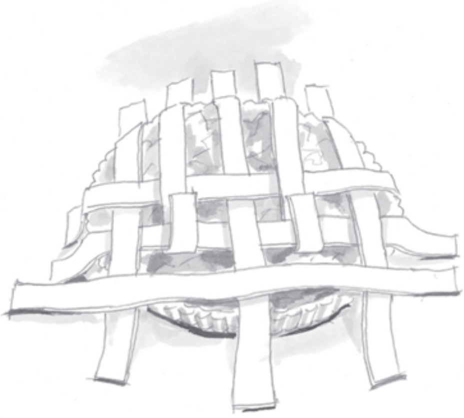


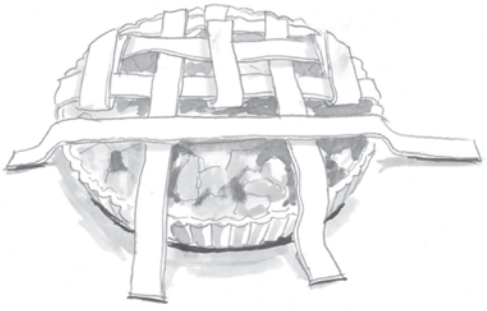
LEFT: *Crimp the edges to seal.*

RIGHT: *Finish by cutting vents into the top crust.*









TOP LEFT: *To weave a lattice top, place strips over the tart in one direction, leaving the same amount of space between them.*

TOP RIGHT: *Turn back every other strip to place the crosswise strips. The first crosswise strip is placed in the center of the tart.*

BELOW LEFT: *Place the last crosswise strip near the edge on one side of the tart.*

BELOW RIGHT: *Turn the tart 180 degrees to finish placing the crosswise strips.*

BLIND BAKING PIE AND TART SHELLS

TO *BLIND BAKE* MEANS to bake an unfilled pie or tart shell partially or fully before adding the filling.

1. Line the dough with parchment paper and fill with pie weights, dried beans, or rice. The weights will prevent the bottom of the crust from bubbling up and the sides from collapsing or sliding down the sides of the pan during baking.

2. Place the pan in the preheated oven. The parchment and weights need only stay in the pan until the crust feels dry to the touch and begins to take on a golden brown color.

3. Once the crust has baked long enough so that it has set and will maintain its form (generally 10 to 12 minutes), remove the parchment and weights to allow for even browning.

4. Return the pan to the oven and bake the crust until the desired color is achieved. If the crust is to be baked again with a filling, bake it just until light golden brown. For a fully baked crust, bake to a deep golden brown, about 20 minutes. Pastry shells are partially prebaked when the time required to bake the filling will not be long enough to fully bake the crust. Shells are completely prebaked when they are to be filled with a filling that does not require further cooking or baking.

5. Brush prebaked pastry shells with a light coating of softened butter or melted chocolate and allow to set fully before filling. This will prevent moisture in the filling from seeping into the crust and making it soggy. Apply the thin coating to the shell using a pastry brush.

6. Place the shell in the refrigerator so that the butter or chocolate will harden, then fill the shell.

For blind baking, the shell is lined with parchment and weighted with dried beans or weights.

WORKING WITH PUFF PASTRY

WHEN WORKING WITH PUFF pastry, keep it as cold as possible. Work in manageable batches so that the dough won't sit at room temperature for too long. If the butter is allowed to soften, it will cause the layering to collapse and prevent the full rise of the dough.

Lightly dust the work surface with flour (preferably bread flour) to prevent the dough from sticking. Roll the dough from the center out in all directions, lifting and turning the dough as you work to prevent the gluten from being overworked in any one direction. Uneven rolling will cause the pastry to become misshapen during baking.

When using puff pastry to line a tart pan, it should be rolled very thin and docked well to inhibit excessive rising during baking. When blind baking puff pastry for items such as napoleons, it should be weighted down to prevent it from fully rising. If allowed to fully rise, it would be too flaky to cut into smaller portions or for building pastries.

Puff pastry is always baked at a relatively high temperature (400° to 425°F/204° to 218°C) to encourage the full rise. Lower temperatures would not create enough steam or set the structure of the pastry quickly enough, and it would either never rise or collapse.

Puff dough is docked before baking to prevent too high a rise.

WORKING WITH FRESH FRUIT

FOR THE MOST FLAVOR, choose fruit that is in season. The best way to select fruit is to taste it. When tasting is not possible, select fruit with the desired color, aroma, and firmness (see "Selecting and Handling Fresh Produce" in Chapter 2, page 29, for more information on fruit). Combine fruits and berries to create different and more complex flavor profiles and textures—for example, strawberries and rhubarb, or pears and cranberries. Using different varieties of the same fruit can also have the same effect, for example Granny Smith and Golden Delicious apples. High-moisture fruits such as peaches and cherries generally benefit from precooking with a starch before assembling into a pie, while lower-moisture fruits such as apples and pears can simply be tossed with sugar, starch, and flavorings and placed directly into a shell for baking.

CUTTING AND PEELING FRUIT

Precise technique for cutting and peeling fruit is important for the uniformity and eye appeal of the final product.

CUTTING CITRUS SUPRÊMES

To cut citrus fruit into suprêmes (segments), slice off the top and bottom of the fruit, and slice the skin and white pith completely away. Then slice between the connective membranes on either side of each citrus segment to release it; twist the knife and use a scooping motion to cut out the suprême.

LEFT: *Remove the peel from the citrus.*

MIDDLE: *Slice between the membranes to remove the segments.*

RIGHT: *Continue cutting to remove all the segments.*

PEELING AND SLICING A MANGO

Cut off the flesh from the broad sides of the pit in two large sections, cutting as close to the pit as possible. Then cut the flesh from the two narrow sides, following the curve of the pit. Remove the skin. Cube or slice the flesh as desired.

PEELING A KIWI

To peel a kiwi, slice off one end of the fruit. Work the tip of a spoon down between the flesh and the skin and carefully slide it all the way around the fruit, then pop out the flesh. Alternately, use a paring knife to peel the kiwi. Cube or slice as desired.

PEELING AND SEEDING A MELON

To peel and seed a melon, use a chef's knife to peel off the skin, following the natural curve of the melon. Cut the melon in half and scoop out the seeds and strings with a spoon. Cube or slice the melon as desired.

CUTTING MELON BALLS

To use a melon baller or Parisian scoop to cut melon balls or ovals, halve the unpeeled melon and scoop out the seeds and strings. Scoop out the melon flesh, rotating the baller as you work to create spheres or ovals.

PEELING AND CUTTING A PINEAPPLE

To peel and cut a pineapple, use a chef's knife to cut off the top and bottom of the fruit. Moving the blade of the knife with the contours of the fruit, cut away the skin, being careful to remove the "eyes" without removing too much of the edible flesh. To dice or cube the pineapple, slice the fruit from the core in four sections, make the slices the desired width, and then dice or cube. To cut the pineapple into rings, lay the peeled fruit on its side and cut into slices of the desired thickness. Remove the core from each slice using a small round cutter.

FROM LEFT TO RIGHT: *Slicing a mango*

Peeling a kiwi

Preparing melon balls

Removing the core from pineapple slices with a ring cutter

PITTING AND CORING FRUIT

To remove the pit from a stone fruit, cut around the circumference of the fruit, down to the pit, using the seam as a guide. Twist the two sections of the fruit in opposite directions to release the flesh from the seed.

To core apples and pears, either use a special coring tool or cut the fruit from the core in four segments. Then cube or slice as desired.

Peeled apples, pears, and other fruits that oxidize quickly when their flesh comes in contact with the air may be tossed in a small amount of lemon juice to prevent browning during preparation.

Coring a pear

STRUDEL

AS VERSATILE AS PIE, strudel can be savory or sweet, provided the filling is low in moisture. Vent the top of the strudel to allow excess moisture to escape to prevent the filling and dough from becoming too soft.

Strudel dough is stretched to create a paper-thin sheet. The high gluten content of bread flour and a resting time after mixing allows this dough to be stretched paper thin. During assembly, strudel dough is brushed with butter and rolled up to encase a filling. This creates a flaky pastry with many layers, as are created by the lamination of puff pastry or by the layering of phyllo dough.

LEFT: *Stretching strudel dough*

RIGHT: *Rolling filling up in strudel dough*

APPLE PIE

MAKES 1 PIE (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
3-2-1 Pie Dough (page 231)	1 lb 4 oz	570 g
APPLE FILLING		
Sugar	5 oz	140 g
Tapioca starch	½ oz	14 g
Cornstarch or all-purpose flour	1 oz	30 g
Salt	½ tsp	3 g
Ground nutmeg	¼ tsp	0.5 g
Ground cinnamon	½ tsp	1 g
Lemon juice	½ tsp	2.5 mL
Butter, melted	1 oz	30 g
Golden Delicious apples, peeled, cored, and sliced ⅛ in/0.3 cm thick	1 lb 8 oz	680 g
Egg Wash (page 1064)	As needed	As needed

1. Divide the dough in half. Roll out one-half of the dough to ⅛ in/0.3 cm thick and line the pie pan. Reserve the other half, wrapped tightly, under refrigeration.

2. Combine the sugar, tapioca, cornstarch, salt, nutmeg, cinnamon, lemon juice, and melted butter and toss with the apples.

3. Fill the pie shell with the apple mixture. Brush the rim of the dough with egg wash.

4. Roll out the remaining dough to a thickness of ⅛ in/0.3 cm and place it over the filling. Crimp the edges to seal, then cut a few vents in the top of the pie.

5. Bake at 375°F/191°C until the filling is bubbling and the crust is a rich golden brown, about 45 minutes.

6. Serve warm, or cool to room temperature before serving.

VARIATION

Other fresh fruit, such as peaches or nectarines, can be substituted for the apples.

CHERRY PIE

MAKES 16 PIES (10 IN/25 CM EACH)

INGREDIENT	U.S.	METRIC
3-2-1 Pie Dough (page 231)	20 lb	9.1 kg
CHERRY FILLING		
Cherry juice (see Chef's Note)	10 lb 8 oz	4.76 kg
Sugar	2 lb	910 g
Salt	½ oz	14 g
Clear gel starch	1 lb	450 g
Cherries, thoroughly drained (see Chef's Note)	18 lb	8.16 kg
Lemon, juiced	3	3
Butter	1 oz	30 g
Egg Wash (page 1064)	As needed	As needed

1. Divide the dough into thirty-two equal parts. Roll out sixteen portions ⅛ in/0.3 cm thick and line the pie pans. Reserve the remaining dough, wrapped tightly, under refrigeration.

2. Combine 9 lb/4.08 kg of the cherry juice with the sugar and salt in a saucepot over medium heat and bring to a boil.

3. Dissolve the clear gel starch in the remaining cherry juice and slowly add to the boiling mixture, stirring continuously.

4. Bring the cherry juice mixture back to a boil and cook for 5 minutes, until the mixture becomes transparent. Remove from the heat.

5. Using a wooden spoon, gently fold in the cherries, lemon juice, and butter. Cool.

6. Scale 2 lb/910 g of the filling for each pie and fill to the top of the prepared crusts. Lightly egg wash the edge of the pie crust.

7. Roll out the remaining dough ⅛ in/0.3 cm thick and place it over the filling. Crimp the edges to seal. Brush the top of the dough with egg wash. Cut vents in the top crust of the pies.

8. Bake the pies at 400°F/204°C until the crust browns, about 45 minutes. Cool on racks before serving.

CHEF'S NOTE

Use cherries and juice from #10 can, drained. If the filling is not sweet enough, add more sugar.

BLUEBERRY PIE

MAKES 2 PIES (10 IN/25 CM EACH)

INGREDIENT	U.S.	METRIC
3-2-1 Pie Dough (page 231)	2 lb 8 oz	1.13 kg
BLUEBERRY FILLING		
Blueberry juice, drained from frozen berries (see Chef's Note)	1 lb 12 oz	790 g
Sugar	7 oz	200 g
Salt	½ tsp	3 g
Clear gel starch	2¾ oz	80 g
Blueberries, thawed frozen, drained	3 lb	1.36 kg
Lemon juice	1 oz	30 g
Egg Wash (page 1064)	As needed	As needed

1. Divide the dough into four equal parts. Roll out two portions ⅛ in/0.3 cm thick and line the pie pans. Reserve the remaining dough, wrapped tightly, under refrigeration.

2. Bring 1 lb 8 oz/680 g of the blueberry juice, the sugar, and salt to a boil in a saucepot.

3. Combine the remaining 4 oz/110 g blueberry juice with the clear gel starch and mix until smooth.

4. Add the starch mixture to the boiling juice, stirring constantly with a wooden spoon. Bring the mixture to a second boil. Boil for 1 minute.

5. Add the blueberries and lemon juice; stir and cook for 1 minute, until the mixture thickens.

6. Remove from the heat and cool completely.

7. Roll out the remaining two portions of dough ⅛ in/0.3 cm thick. Cut into strips ½ in/1 cm wide. Weave a lattice over the top of the pie, leaving a ½-in/1-cm space between the strips (see page 622 for instructions on weaving a lattice top). Brush the lattice crust with egg wash.

8. Bake the pies at 400°F/204°C until the crust browns, about 45 minutes.

CHEF'S NOTE

If there is not enough blueberry juice, make up the difference with cranberry juice.

BLUEBERRY PIE WITH FRESH BERRIES

MAKES 1 PIE (10 IN/25 CM)

INGREDIENT	U.S.	METRIC
3-2-1 Pie Dough (page 231)	1 lb 8 oz	680 g
BLUEBERRY FILLING		
Blueberries, fresh	1 lb 8 oz	680 g
Sugar	8 oz	230 g
Tapioca starch	1½ oz	40 g
Egg Wash (page 1064)	As needed	As needed

1. Divide the dough into two equal pieces. Roll out one piece ⅛ in/0.3 cm thick and line the pie pan. Reserve the remaining dough, wrapped tightly, under refrigeration.

2. Combine the blueberries, sugar, and tapioca.

3. Roll out the remaining dough ⅛ in/0.3 cm thick. Lightly brush the edge of the lined pie dough with egg wash. Place the berry mixture into the lined pie pan and place the remaining rolled dough on top. Trim and crimp together the edges to seal. Make a few vents on top.

4. Bake the pie at 400°F/204°C until golden brown, about 45 minutes.

LEMON MERINGUE PIE

MAKES 4 PIES (10 IN/25 CM EACH)

INGREDIENT	U.S.	METRIC
3-2-1 Pie Dough (page 231)	2 lb 8 oz	1.13 kg
LEMON MERINGUE FILLING		
Water	4 lb	1.81 kg
Sugar	2 lb	910 g
Salt	½ oz	14 g
Lemon juice	10 oz	280 g
Lemon zest, grated	2 oz	60 g
Cornstarch	6 oz	170 g
Egg yolks	8 oz	230 g
Butter	4 oz	110 g
MERINGUE TOPPING		
Egg whites	14 oz	400 g
Granulated sugar	1 lb 12 oz	790 g
Confectioners' sugar	As needed	As needed

1. Divide the dough into four equal pieces, 10 oz/280 g each. Roll out the dough ⅛ in/0.3 cm thick and line the pie pans. Line the pie shells with parchment paper and fill with dried beans or pie weights. Bake the shells at 350°F/177°C until golden brown, about 30 minutes. Remove the weights. Cool completely.

2. Combine 3 lb/1.36 kg of the water, 1 lb/450 g of the sugar, the salt, lemon juice, and zest in a saucepot and bring to a boil.

3. Combine the remaining 1 lb/450 g of sugar and the cornstarch; thoroughly mix together.

4. Combine the egg yolks and the remaining 1 lb/450 g of water. Add to the sugar-cornstarch mixture. Mix until thoroughly combined and reserve.

5. When the lemon juice mixture comes to a boil, temper the mixture into the egg yolk mixture. Put the combined mixtures back on the heat and return to a boil until the mixture thickens, about 2 minutes. Once thickened, remove from the heat immediately. Stir in the butter.

6. Scale 1 lb 10 oz/740 g of the pie filling into each of the four pie shells and let cool to room temperature.

7. To make the meringue topping, whip the egg whites in a clean bowl, gradually adding the sugar. Whip to stiff peaks.

8. Using a pastry bag with a #5 star tip or a palette knife, divide the meringue topping among the four pies and swirl into a decorative pattern. Dust with confectioners' sugar and bake at 425°F/218°C until the meringue is lightly browned, about 3 minutes. Serve.

PUMPKIN PIE

MAKES 8 PIES (10 IN/25 CM EACH)

INGREDIENT	U.S.	METRIC
3-2-1 Pie Dough (page 231)	5 lb	2.27 kg
PUMPKIN FILLING		
Water	6 lb 10 oz	3.01 kg
Pumpkin, canned	6 lb 10 oz	3.01 kg
Sugar	2 lb 9 oz	1.16 kg
Nonfat dry milk	14 oz	400 g
Bread flour	7 oz	200 g
Salt	1½ oz	40 g
Ground ginger	¼ oz	7 g
Ground nutmeg	¼ oz	7 g
Ground cinnamon	¼ oz	7 g
Eggs	2 lb 3 oz	990 g

1. Divide the pie dough into eight equal pieces. Roll out each piece ⅛ in/0.3 cm thick and line the pie pans.

2. Combine the water and pumpkin in the mixer and mix with the whip attachment on low speed until just combined.

3. Sift together the sugar, milk powder, flour, salt, and spices. Gradually add to the pumpkin mixture, mixing on medium speed until just combined.

4. Add the eggs in three additions, mixing after each addition until fully incorporated, and scraping down the bowl as needed.

5. Scale 2 lb 7 oz/1.11 kg of the filling into each pie shell. Bake at 420°F/216°C until the filling sets and the crust browns, about 45 minutes. Serve or store in the refrigerator.

VANILLA CREAM PIE

MAKES 1 PIE (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
3-2-1 Pie Dough (page 231)	10 oz	280 g
Milk	1 lb 8 oz	680 g
Sugar	6 oz	170 g
Vanilla bean, split and scraped	1	1
Cornstarch	2 oz	60 g
Eggs	3 oz	90 g
Egg yolks	2 oz	60 g
Butter	1 oz	30 g

1. Roll out the dough ⅛ in/0.3 cm thick and line the pie pan. Line the pie shell with parchment paper and fill with dried beans or pie weights. Bake the pie shell at 350°F/177°C until very light golden brown, about 15 minutes. Remove the beans and parchment and continue baking to a golden brown, about 5 minutes. Cool completely.

2. Combine 1 lb 2 oz/510 g of the milk with 3 oz/90 g of the sugar in a saucepan. Add the vanilla bean seeds and pod. Bring the mixture to a boil, stirring to dissolve the sugar.

3. Meanwhile, combine the remaining 3 oz/90 g sugar with the cornstarch, stirring together with a whisk. Add the remaining 6 oz/170 g milk, the eggs, and egg yolks and whisk to blend.

4. Temper the egg mixture by gradually adding one-third of the hot milk mixture, whisking constantly. Return the tempered egg mixture to the remaining milk in the saucepan and cook, stirring constantly, just until it reaches a boil. Cook, stirring constantly, for an additional 2 minutes.

5. Remove the pan from the heat and whisk in the butter. Strain through a fine-mesh sieve.

6. Pour the hot filling into the prebaked pie shell. Cover the surface of the filling with plastic wrap placed directly against it to prevent a skin from forming. Cool to room temperature.

7. Chill before serving.

VARIATIONS

BANANA CREAM PIE *Spread half of the filling into the pie shell. Cover with a layer of 8 oz/230 g sliced bananas, then top with the remaining filling.*

CHOCOLATE CREAM PIE *Add 3 oz/90 g melted bittersweet chocolate to the cream with the butter immediately after boiling.*

COCONUT CREAM PIE *Add 2 oz/60 g lightly toasted unsweetened coconut to the milk before heating it.*

SWEET POTATO PIE

MAKES 1 PIE (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
3-2-1 Pie Dough (page 231)	10 oz	280 g
Sweet potatoes	8 oz	230 g
Milk	8 oz	230 g
Eggs, lightly beaten	4 oz	110 g
Sugar	3¼ oz	90 g
Butter, melted	1 oz	30 g
Ground cinnamon	1 tsp	2 g
Ground allspice	¼ tsp	0.5 g
Ground mace	¼ tsp	0.5 g
Salt	¼ tsp	1.5 g

1. Roll out the dough ⅛ in/0.3 cm thick and line the pie pan. Line the pie shell with parchment paper and fill with dried beans or pie weights. Bake the pie shell at 350°F/177°C until very light golden brown, about 15 minutes. Cool completely.

2. Prick the sweet potatoes with a fork. Lightly oil them and place on a rack in a baking pan.

3. Bake the potatoes at 350°F/177°C until very tender, about 35 minutes. Cool and then remove the peel.

4. Mash the sweet potatoes until completely smooth. Combine with the remaining ingredients, blending well. Pour into the prebaked pie shell.

5. Bake at 350°F/177°C until the filling is set, about 35 minutes. Cool completely, and then refrigerate until the filling is completely set before serving.

TARTE TATIN

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
Granulated sugar	8 oz	230 g
Light brown sugar	4 oz	110 g
Ground cinnamon	½ tsp	1 g
Golden Delicious apples	6	6
Pâte Brisée (page 231)	8 oz	230 g
Apple brandy	1 oz	30 g

1. Butter a cake pan 9 in/23 cm in diameter and 2 in/5 cm deep.

2. Melt the granulated sugar in a heavy-bottomed pan, adding it in small increments and stirring after each addition until melted before adding more. Cook to a rich golden brown caramel.

3. Pour the caramel into the cake pan and cool completely.

4. Sprinkle the brown sugar on top of the caramel and dust with the cinnamon.

5. Peel, core, and halve the apples. Arrange them in a circular pattern, flat side down, to completely cover the bottom of the pan.

6. Roll out the pâte brisée ¼ in/0.6 cm thick and place it over the apples, slightly tucking it in around the edge of the pan.

7. Bake at 400°F/204°C until the crust is golden brown, about 45 minutes.

8. Invert the pan onto a rack set over a pan to drain the liquid.

9. Place the liquid in a pan and simmer over medium heat until it begins to thicken. Add the apple brandy and pour the mixture over the top of the tart just before serving.

PECAN PIE

MAKES 1 PIE (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
3-2-1 Pie Dough (page 231)	10 oz	280 g
Sugar	½ oz	14 g
Bread flour	½ oz	14 g
Dark corn syrup	10½ oz	300 g
Eggs, beaten	3½ oz	100 g
Vanilla extract	1 tsp	5 mL
Salt	½ tsp	3 g
Butter, melted	1 oz	30 g
Pecan halves, toasted	4 oz	110 g

1. Roll out the dough ⅛ in/0.3 cm thick and line the pie pan.

2. Combine the sugar and flour in a bowl and whisk together. Add the corn syrup and blend thoroughly. Add the eggs, vanilla, and salt and mix until incorporated. Stir in the melted butter.

3. Spread the pecans evenly in the pie shell and pour the corn syrup mixture on top.

4. Bake at 400°F/204°C until the crust begins to brown, about 15 minutes. Reduce the oven temperature to 325°F/163°C and bake until the filling is set, about 25 minutes longer. Cool completely before serving.

VARIATIONS

CHOCOLATE PECAN PIE *Add 6 oz/170 g chocolate chunks along with the pecans.*

PECAN CRANBERRY PIE *Add 5 oz/140 g fresh or frozen cranberries along with the pecans.*

PUFF PASTRY APPLE TART

MAKES 1 TART (10 IN/25 CM)

INGREDIENT	U.S.	METRIC
Butter Puff Pastry Dough (page 244)	10 oz	280 g
Apricot jam	2 oz	60 g
Apples, peeled, cored and finely chopped	1	1
Apples, peeled, cored, and thinly sliced	4	4
Sugar	2 oz	60 g
Apricot Glaze (page 492), warm	1 oz	30 g

1. Roll out the puff pastry ¼ in/0.6 cm thick. Cut a 10-in/25-cm circle from the dough.

2. Place the round of dough on a parchment-lined sheet pan. Spread a thin layer of apricot jam over the circle of dough, leaving a ½-in/1-cm border of dough around the entire tart. Spread the chopped apple over the jam. Arrange the sliced apples on top of the chopped apple in a fanned spiral, starting from the center and working out to the edges. Sprinkle the sugar on top of the apples.

3. Bake at 400°F/204°C until golden brown, about 20 minutes.

4. Using a pastry brush, glaze the tart with the apricot glaze. Serve warm or completely cooled.

STRAWBERRY RHUBARB TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
Sugar	6 oz	170 g
Cornstarch	1¼ oz	40 g
Ground cinnamon	½ tsp	1 g
Ground cloves	Pinch	Pinch
Rhubarb (fresh or frozen), cut into 1-in/3-cm pieces	8 oz	230 g
Strawberries (fresh or frozen)	8 oz	230 g
Lemon juice	1 oz	30 g
Pâte Brisée (page 231)	1 lb 8 oz	680 g

1. Combine the sugar, cornstarch, cinnamon, and cloves. Toss together with the rhubarb, strawberries, and lemon juice.

2. Divide the pâte brisée in half. Roll out one piece ⅛ in/0.3 cm thick and line the tart pan. Spoon the filling into the tart shell.

3. Roll out the remaining dough ⅛ in/0.3 cm thick. Cut it into strips ½ in/1 cm wide. Weave a lattice over the top of the tart, leaving a ½-in/1-cm space between each strip (see page 622 for instructions on weaving a lattice top).

4. Bake at 400°F/204°C for 10 minutes. Reduce the temperature to 350°F/177°C and bake until the crust is golden brown, about 30 minutes more. Serve warm or completely cooled.

RUSTIC PEACH TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
Blitz Puff Pastry (page 247)	10 oz	280 g
Peaches, peeled, pitted, and cut into ¼-in/0.6-cm slices	1 lb	450 g
Ground nutmeg	¼ tsp	0.5 g
Granulated sugar	2 oz	60 g
Egg Wash (page 1064)	As needed	As needed
Cake crumbs, fresh	1½ oz	40 g
Almonds, slivered (optional)	1½ oz	40 g
Coarse sugar	2 oz	60 g

1. Roll out the puff pastry ⅛ in/0.3 cm thick. Cut a 10-in/25-cm circle from the dough and place it on a parchment-lined sheet pan.

2. Toss the peaches with the nutmeg and granulated sugar.

3. Brush the outside 1-in/3-cm perimeter of the puff pastry circle lightly with egg wash. Sprinkle the cake crumbs on top of the pastry, leaving a 2-in/5-cm border. Mound the peaches on top of the cake crumbs. Sprinkle the almonds on top of the fruit, if using.

4. Fold the edges of the puff pastry over the fruit, pleating the dough as necessary. Brush the pleated edge of the pastry lightly with egg wash and sprinkle with the coarse sugar.

5. Bake at 400°F/204°C until golden brown, about 1 hour. Cool on a wire rack. Serve warm or cold.

VARIATION

Substitute apples, pears, pitted sour cherries, or apricots for the peaches.

FLORIDA SUNSHINE TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
Butter Puff Pastry Dough (page 244)	10 oz	280 g
Egg Wash (page 1064)	As needed	As needed
Classic Caramel Sauce (page 531)	4 oz	110 g
Pastry Cream (page 417)	6 oz	170 g
Oranges, peeled	8	8
Apricot Glaze (page 492), warm	2 oz	60 g

1. Roll out the puff pastry ¼ in/0.6 cm thick. Cut a 10-in/25-cm circle from the pastry. Cut a 9-in/23-cm circle from the center of the pastry, creating a ring ½ in/1 cm wide.

2. Brush the puff pastry circle with egg wash. Cut the puff pastry ring to open it and place it on top of the circle to create a border around its edge. Cut off any excess so the ends of the border ring do not overlap. Brush the top of the ring with egg wash. Dock the bottom of the circle and place on a parchment-lined sheet pan.

3. Bake at 375°F/191°C until lightly browned, 15 to 20 minutes. Reduce the oven temperature to 300°F/149°C and bake until the shell is dry and golden brown, about 10 minutes longer.

4. Pour the caramel sauce into the shell while it is still warm and spread it evenly. Allow the caramel to cool completely and chill.

5. Using a pastry bag fitted with a #5 plain tip, pipe the pastry cream into the bottom of the shell in concentric circles.

6. Cut the oranges into suprêmes and place on paper towels to absorb additional excess moisture. Arrange the segments in a spiral in the shell, overlapping the segments and completely covering the pastry cream.

7. Brush the oranges with a thin layer of apricot glaze. Refrigerate until ready to serve.

LEMON FANTASY TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	10 oz	280 g
Eggs	8 oz	230 g
Sugar	6¾ oz	190 g
Heavy cream	5 oz	140 g
Lemon zest, grated	1 tsp	3 g
Lemon juice	4 oz	110 g

1. Roll out the dough ⅛ in/0.3 cm thick and line the tart pan. Line the tart shell with parchment paper and fill with dried beans or pie weights. Bake the tart shell at 325°F/163°C until very light golden brown, 10 to 12 minutes. Cool completely.
2. Whisk together the eggs and sugar.
3. Whip the cream to soft peaks.
4. Add the lemon zest and juice to the egg mixture. Fold in the whipped cream.
5. Pour the filling into the tart shell. Bake at 325°F/163°C until just set, about 45 minutes.
6. Cool completely. Chill for several hours or until fully set.

RASPBERRY MASCARPONE TART

MAKES 1 TART (9 IN/23 CM)

RIGHT: Gallery of Zesty Lime Tart (rear; page 650), Raspberry Mascarpone Tart (middle; this page), Strawberry Rhubarb Tart (front; page 640)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	10 oz	280 g
Mascarpone	4 oz	110 g
Honey	2 oz	60 g
Vanilla extract	1 tsp	5 mL
Lemon juice	2 oz	60 g
Heavy cream	6 oz	170 g
Raspberries, fresh	8 oz	230 g
Apricot Glaze (page 492), warm	2 oz	60 g

1. Roll out the dough ⅛ in/0.3 cm thick and line the tart pan. Line the tart shell with parchment paper and fill with dried beans or pie weights. Bake the tart shell at 350°F/177°C until very light golden brown, about 15 minutes. Remove the beans and parchment and continue baking to a golden brown, about 5 minutes. Cool completely.

2. Mix the mascarpone, honey, vanilla, and lemon juice until well blended.

3. Whip the cream to soft peaks. Fold the whipped cream into the mascarpone mixture.

4. Pour the filling into the cooled tart shell and spread it evenly. Arrange the raspberries on top of the tart. Brush the berries with the warm glaze. Refrigerate until ready to serve.

CHEESE TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (233)	10 oz	280 g
Cream cheese	2 oz	60 g
Sugar	2½ oz	70 g
Eggs	6 oz	170 g
Heavy cream	4 oz	110 g
Orange zest, grated	1 tbsp	9 g
Raspberries (fresh or frozen)	8 oz	230 g

1. Roll out the dough ⅛ in/0.3 cm thick and line the tart pan. Line the tart shell with parchment paper and fill with dried beans or pie weights. Bake at 350°F/177°C until very light golden brown, about 15 minutes. Cool completely.

2. Combine the cream cheese and sugar in the mixer and mix with the paddle attachment on medium speed until smooth. Gradually add the eggs, mixing after each addition until fully incorporated and scraping down the sides of the bowl periodically. Add the cream and orange zest and blend well.

3. Place the raspberries in the tart shell so they cover the bottom evenly. Pour the filling over the raspberries and spread it evenly.

4. Set the tart pan on a sheet pan and bake at 350°F/177°C until a knife blade inserted in the center comes out clean, 40 to 45 minutes. If the pastry begins to overbrown, cover the edges of the dough with strips of aluminum foil or a pie shield. Remove the tart from the oven and cool on a wire rack. Let the tart rest at least 20 minutes before cutting. Serve hot, warm, or at room temperature.

LEMON MOUSSE TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
Rich Short Dough (page 234)	10 oz	280 g
LEMON MOUSSE		
Gelatin, granulated	2 tsp	10 g
Water	1 oz	30 g
Heavy cream	8 oz	230 g
Half-and-half	4 oz	110 g
Sugar	3 oz	90 g
Egg yolks	2 oz	60 g
Vanilla extract	1 tsp	5 mL
Lemon juice	1 oz	30 g

1. Roll out the dough ⅛ in/0.3 cm thick and line the tart pan. Line the tart shell with parchment paper and fill with dried beans or pie weights. Bake at 350°F/177°C until very light golden brown, about 15 minutes. Remove the beans and parchment and continue baking to a golden brown, about 5 minutes. Cool completely.

2. Bloom the gelatin in the water.

3. Whip the cream to soft peaks. Cover and reserve under refrigeration.

4. Combine the half-and-half and 1½ oz/40 g of the sugar in a saucepan and bring to a simmer over medium heat, stirring to dissolve the sugar.

5. Blend the egg yolks with the remaining 1½ oz/40 g sugar to make the liaison. Temper by gradually adding about one-third of the hot half-and-half, whisking constantly. Return the tempered egg mixture to the hot half-and-half in the saucepan and cook, stirring gently, until the custard thickens enough to coat the back of a spoon. Strain the hot mixture over the bloomed gelatin and stir to blend well.

6. Allow the mixture to cool slightly, then blend in the vanilla and lemon juice.

7. Gently blend one-third of the lemon custard mixture into the reserved whipped cream. Fold the cream into the remaining lemon mixture.

8. Pour into the prepared tart shell and spread evenly.

9. Refrigerate for 1 hour before serving.

ALMOND AND PINE NUT TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	10 oz	280 g
Almond paste	6 oz	170 g
Sugar	2½ oz	70 g
Eggs	3	3
Vanilla extract	1 tsp	5 mL
All-purpose flour	1½ oz	40 g
Pine nuts	2 oz	60 g
Confectioners' sugar	As needed	As needed

1. Roll out the dough ⅛ in/0.3 cm thick and line the tart pan.

2. In the bowl of a stand mixer fitted with the paddle attachment, combine the almond paste, sugar, and 1 of the eggs, blending until smooth. Add the remaining eggs one at a time, mixing after each addition until fully incorporated. Scrape the bowl after each addition. Blend in the vanilla. Add the flour and mix until incorporated.

3. Pour the filling into the tart shell. Scatter the pine nuts over the top.

4. Bake at 350°F/177°C until the filling is set, about 35 minutes. Cool completely.

5. To serve, remove from the tart pan and dust with confectioners' sugar.

CARAMEL ORANGE TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	10 oz	280 g
Heavy cream	10 oz	280 g
Vanilla beans, seeds only	½	½
Orange juice	8 oz	230 g
Sugar	3½ oz	100 g
Egg yolks, beaten	4 oz	110 g

1. Roll out the dough ⅛ in/0.3 cm thick and line the tart pan. Line the tart shell with parchment paper and fill with dried beans or pie weights. Bake the tart shell at 350°F/177°C until very light golden brown, about 15 minutes. Cool completely.

2. Pour the cream into a saucepan. Add the vanilla seeds and bring to a simmer. Remove from the heat, cover, and allow to steep for 15 minutes.

3. Combine the orange juice and sugar in a small saucepan over high heat and stir constantly until the mixture comes to a boil to ensure all the sugar is melted. Once it has come to a boil, stop stirring. Using a pastry brush, wash down the sides of the pan with cool water to prevent crystals from forming. Repeat brushing as often as necessary to keep the sides of the pan clean until the sugar has reached a rich golden brown. Slowly add the cream, stirring until fully incorporated. Cool to 70°F/21°C.

4. Temper the egg yolks into the caramel mixture.

5. Fill the tart shell with the caramel custard. Bake at 325°F/163°C until the filling is set, about 40 minutes.

6. Cool completely before serving.

ZESTY LIME TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	10 oz	280 g
Butter	5½ oz	160 g
Sugar	4½ oz	130 g
Lime zest, grated	¾ oz	20 g
Lime juice	4½ oz	120 g
Egg yolks	2 oz	60 g
Candied Lime Peel (see Chef's Note, page 938)	2 oz	60 g

1. Roll out the dough ⅛ in/0.3 cm thick and line the tart pan. Line the tart shell with parchment paper and fill with dried beans or pie weights. Bake the tart shell at 350°F/177°C until very light golden brown, about 15 minutes. Remove the beans and parchment and continue baking to a golden brown, about 5 minutes. Cool completely.

2. Combine the butter, 2¼ oz/60 g of the sugar, the lime zest, and juice in a saucepan and bring to a boil, stirring frequently to dissolve the sugar.

3. Blend the egg yolks with the remaining 2¼ oz/60 g sugar to make the liaison. Temper by gradually adding about one-third of the hot mixture, whisking constantly. Return to the saucepan, stirring constantly, and cook until thickened enough to evenly coat a spoon.

4. Strain the mixture into the tart shell. Chill thoroughly.

5. To serve, garnish with the candied lime peel.

APPLE CUSTARD TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	10 oz	280 g
Apricot jam	2½ oz	70 g
Apples, peeled, cored, and cut into ¼-in/0.6-cm slices	3	3
Butter, melted	1 oz	30 g
Cinnamon Sugar (page 1070)	1 tsp	5 g
Eggs	6 oz	170 g
Sugar	4 oz	110 g
Sour cream	8 oz	230 g
Milk	6 oz	170 g
Vanilla extract	½ tsp	2.5 mL
Apricot Glaze (page 492), warm	4 oz	140 g
Sliced almonds, toasted and coarsely chopped	1 oz	30 g

1. Roll out the dough ⅛ in/0.3 cm thick and line the tart pan. Line the tart shell with parchment paper and fill with dried beans or pie weights. Bake the tart shell at 350°F/177°C until very light golden brown, about 15 minutes. Cool completely.

2. Spread the apricot jam over the bottom of the tart shell. Arrange the sliced apples in concentric circles on top of the jam. Using a pastry brush, brush the melted butter over the apples. Sprinkle with the cinnamon sugar.

3. Bake at 375°F/191°C until the apples are tender and the crust is golden brown, about 40 minutes.

4. Whisk together the eggs, sugar, sour cream, milk, and vanilla. Remove the tart from the oven and pour the sour cream mixture over the cooked apples, filling the tart shell to the top.

5. Reduce the oven temperature to 300°F/149°C and bake until the custard is set, about 35 minutes longer. Cool to room temperature.

6. Brush the top of the tart with the apricot glaze. Press the almonds around the edge of the tart.

CUSTARD FRUIT TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
3-2-1 Pie Dough (page 231)	10 oz	280 g
Apricot jam	3 oz	90 g
Fresh fruit, peeled, cored or pitted as necessary, and sliced	1 lb	450 g
Egg yolks	7 oz	200 g
Sugar	4 oz	110 g
Heavy cream	1 lb	450 g
Vanilla beans, seeds only	1	1
Lemon or orange zest, grated	1	1
Apricot Glaze (page 492), warm	As needed	As needed
Sliced almonds, toasted, finely chopped	1 oz	30 g

1. Roll the dough out ⅛ in/0.3 cm thick and line the tart pan. Line the tart shell with parchment paper and fill with dried beans or pie weights. Bake the tart shell at 350°F/177°C until very light and golden brown, about 15 minutes. Cool completely.

2. Spread the apricot jam over the bottom of the tart shell. Arrange the sliced fruit in concentric circles on top of the jam.

3. Bake at 375°F/191°C until the fruit is tender and the crust is golden brown, about 30 minutes.

4. Whisk together the egg yolks and 2 oz/60 g of the sugar to make the liaison. In a saucepan, bring the cream, the remaining sugar, the vanilla seeds, and lemon zest to a boil. Temper by gradually adding about one-third of the hot cream mixture to the yolks, whisking constantly, and then add the remaining hot cream mixture. Strain.

5. Pour the custard base slowly over the fruit.

6. Bake at 325°F/163°C just until the custard is set, approximately 20 minutes. Cool completely before removing the tart pan.

7. Brush the surface and sides of the tart with the apricot glaze. Press the almonds around the edge of the tart.

APPLE ALMOND TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
Pâte Brisée (page 231)	10 oz	280 g
Frangipane for Filling (page 1068)	12 oz	340 g
Pastry Cream (page 1070)	8 oz	230 g
Apples, peeled, cored, and cut into ¼-in/0.6-cm slices	3	3
Cinnamon Sugar (page 1070)	2 oz	60 g
Apricot Glaze (page 492), warm	3 oz	90 g
Sliced almonds, toasted and coarsely chopped	2 oz	60 g

1. Roll out the pâte brisée ⅛ in/0.3 cm thick and line the tart pan.

2. Combine the frangipane and pastry cream in the mixer and mix with the paddle attachment on medium speed, scraping down the bowl periodically, until well blended, about 3 minutes.

3. Spread the mixture into the tart shell and spread evenly.

4. Arrange the sliced apples on top of the pastry cream mixture in a fanned spiral, working from the center out. Sprinkle the apples with the cinnamon sugar.

5. Bake at 375°F/191°C until the filling is golden brown, about 40 minutes.

6. Remove from the oven and, using a pastry brush, brush the tart with the apricot glaze. Sprinkle the toasted almonds around the edge of the tart.

VARIATION

This tart can also be made with plums, peaches, apricots, nectarines, or other sliced fruit of choice.

WARM CHOCOLATE TART

MAKES 10 TARTLETS

INGREDIENT	U.S.	METRIC
GANACHE		
Chocolate, 50% force noir	4¼ oz	120 g
Unsweetened chocolate liquor	1 oz	30 g
Heavy cream	8 oz	230 g
Water	2 oz	60 g
Butter, 70°F/21°C	2¼ oz	60 g
Kahlùa	½ oz	14 g
Chocolate Pâte Sucrée tartlet shells (page 232)	10	10
CHOCOLATE FILLING		
Almond flour	3 oz	90 g
Rice flour	3 oz	90 g
Chocolate, 61%	6 oz	170 g
Unsweetened chocolate liquor	2¼ oz	60 g
Butter, cubed	4 oz	110 g
Egg whites	5 oz	140 g
Sugar	7 oz	200 g
Egg yolks, 70°F/21°C	3 oz	90 g

1. For the ganache: Place the chocolate and chocolate liquor in a large bowl.

2. Place the heavy cream and water in a medium nonreactive saucepot and bring to a boil. Pour the hot cream mixture over the chocolate.

3. Using a whisk, stir the ganache together very slowly until fully incorporated. Stir in butter and kahlua until the butter is melted.

4. Using an immersion blender, blend until homogenous. While the ganache is still warm (rewarm if necessary), place ganache in a sauce gun.

5. Using the sauce gun, fill the baked tart shells one-quarter full.

6. Cover the filled tart shells with plastic wrap and place in the freezer for at least one hour or until firm.

7. Remove the filled tart shells from the freezer. Remove tart shells from rings. Set rings aside until tart shells are completely filled.

8. For the filling: Sift the flours together through a fine-mesh drum sieve.

9. Place the chocolate and chocolate liquor in a large bowl. Place the butter in a small nonreactive saucepot and bring to boil. Pour the melted butter over the chocolate.

10. Place the egg whites in the bowl of a mixer and whip with the whip attachment on high speed until frothy. With the mixer still on high, slowly stream the sugar into the egg whites and continue to whip until medium peaks are formed.

11. Fold half of the egg yolks into the chocolate mixture. Fold the rest of the yolks into the chocolate mixture until fully incorporated.

12. Fold the flour mixture into the chocolate mixture.

13. Fold the meringue mixture one-third at a time into the chocolate mixture.

14. Using a piping bag without a tip, fill the tart shells with the chocolate filling.

15. Place rings back on tart shells. Cover with plastic wrap and place in freezer until firm, at least one hour or up to one week.

16. Preheat oven to 350°F/177°C.

17. Directly from the freezer, bake the tarts for 8 to 10 minutes.

18. Let tarts sit for one minute, then remove the tart rings.

19. Serve warm. If necessary, reheat for 2 to 3 minutes at 350°F/177°C.

WALNUT TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	10 oz	280 g
Walnuts, toasted and chopped	7 oz	200 g
Eggs	6 oz	170 g
Maple syrup	5 oz	140 g
Granulated sugar	4 oz	110 g
Butter, melted	1 oz	30 g
Brandy	1 oz	30 g
Confectioners’ sugar, for dusting	As needed	As needed

1. Roll out the dough ⅛ in/0.3 cm thick and line the tart pan. Line the tart shell with parchment paper and fill with dried beans or pie weights. Bake the tart shell at 350°F/177°C until very light golden brown, about 15 minutes. Cool completely.

2. Spread the walnuts evenly in the tart shell.

3. Combine the eggs, maple syrup, granulated sugar, butter, and brandy, blending well. Pour into the tart shell.

4. Bake at 350°F/177°C until the filling is set, about 35 minutes. Cool completely.

5. Just before serving, dust lightly with confectioners’ sugar.

CHOCOLATE MACADAMIA NUT TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
Chocolate Short Dough (page 235)	12 oz	340 g
Bittersweet chocolate, finely chopped	2 oz	60 g
Heavy cream	3 oz	90 g
Instant espresso powder	1 tsp	3 g
Sugar	4 oz	110 g
Heavy cream, hot	4 oz	110 g
Butter	1 oz	30 g
Macadamia nuts, lightly toasted	2 oz	60 g

1. Roll out the dough ⅛ in/0.3 cm thick and line the tart pan. Line the tart shell with parchment paper and fill with dried beans or pie weights. Bake the tart shell at 350°F/177°C until very light golden brown, about 15 minutes. Remove the beans and parchment and continue baking to a golden brown, about 5 minutes. Cool completely.

2. Place the chocolate in a bowl. Bring the cream to a simmer, add the espresso, and stir until dissolved. Pour the cream over the chocolate, allow to stand for 5 minutes, and stir until the chocolate is melted and smooth. Cool the ganache to room temperature.

3. Heat a heavy-bottomed pan. Add the sugar in small increments, stirring after each addition and making sure all the sugar is melted before adding more. Cook to a rich golden brown.

4. Remove the pan from the heat. Slowly stir in the hot cream, then stir in the butter. Cool slightly.

5. Pour approximately 2 oz/60 g of the caramel into the tart shell and spread it evenly over the bottom. Scatter half the macadamia nuts evenly over the caramel. Pour the ganache over the nuts and spread it evenly.

6. Freeze the tart for 1 hour.

7. Pour the remaining caramel onto the center of the tart and spread it evenly over the ganache. Arrange the remaining macadamia nuts on top of the tart. Refrigerate until fully chilled.

CRANBERRY PECAN TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	12 oz	340 g
Butter	4½ oz	130 g
Light corn syrup	10 oz	280 g
Light brown sugar	6 oz	170 g
Eggs	5 oz	140 g
Vanilla extract	1½ oz	40 g
Cranberries	2 oz	60 g
Pecans, chopped	4 oz	110 g
Pecan halves	10 oz	280 g

1. Roll out the dough ⅛ in/0.3 cm thick and line the tart pan. Line the tart shell with parchment paper and fill with dried beans or pie weights. Bake the tart shell at 350°F/177°C until very light golden brown, about 15 minutes. Cool completely.

2. Combine the butter, corn syrup, and sugar in a saucepan and heat, stirring, until the sugar has dissolved. Remove from the heat.

3. Whip the eggs in the mixer with the whip attachment on medium speed until pale in color and light in texture, about 5 minutes. Stream in the sugar mixture. Blend in the vanilla.

4. Spread the cranberries and chopped pecans evenly in the tart shell. Pour the filling evenly over them. Arrange the pecan halves on top of the filling in concentric circles.

5. Bake at 350°F/177°C until the filling is set, about 40 minutes. Cool completely and serve, or refrigerate until fully chilled and then serve.

APRICOT CLAFOUTIS TART

MAKES 1 TART (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	10 oz	280 g
Apricots, halved, pitted	6	6
Cake flour	1¼ oz	40 g
Granulated sugar	1¾ oz	50 g
Butter, melted	1¾ oz	50 g
Milk	6 oz	170 g
Heavy cream	6 oz	170 g
Crème fraîche	½ oz	14 g
Egg yolks	1	1
Confectioners' sugar, for dusting	As needed	As needed

1. Roll out the dough ⅛ in/0.3 cm thick and line the tart pan. Line the tart shell with parchment paper and fill with dried beans or pie weights. Bake the tart shell at 350°F/177°C until very light golden brown, about 15 minutes. Cool completely.

2. Arrange the apricot halves in the tart shell in concentric circles with the cut sides down.

3. Whisk together the flour and granulated sugar. Blend in the butter, milk, cream, and crème fraîche. Blend in the egg yolk.

4. Pour the filling over the apricots.

5. Bake at 350°F/177°C until the filling is set, about 45 minutes.

6. Lightly dust with confectioners' sugar. Serve warm.

CLAFOUTIS

MAKES 10 SERVINGS (4 FL OZ/120 ML EACH)

INGREDIENT	U.S.	METRIC
Milk	12 oz	340 g
Granulated sugar	4 oz	110 g
Salt	Pinch	Pinch
Vanilla beans, split and scraped	½	½
Eggs	3	3
All-purpose flour	1½ oz	40 g
Tart cherries, pitted	12 oz	340 g
Confectioners' sugar, for dusting	As needed	As needed

1. Coat 10 ramekins (4 fl oz/120 mL each) with a thin film of butter and dust them lightly with granulated sugar.

2. Combine the milk, 2 oz/60 g of the sugar, the salt, and the vanilla bean pod and seeds in a saucepan and bring to boil, stirring to dissolve the sugar.

3. In a separate bowl, combine the eggs with the flour and the remaining 2 oz/60 g sugar to make the liaison. Temper by gradually adding about one-third of the hot milk, whisking constantly, and then add the remaining hot milk. Strain.

4. Divide the cherries equally among the prepared ramekins. Divide the custard mixture among the ramekins, pouring it over the cherries.

5. Bake in a hot water bath at 325°F/163°C until the custard is set, about 20 minutes.

6. Lightly dust with confectioners' sugar. Serve warm.

THREE-BERRY COBBLER

MAKES 20 COBBLERS (12 FL OZ/360 ML EACH)

INGREDIENT	U.S.	METRIC
Strawberries, hulled and halved	2 lb	910 g
Raspberries	1 lb 10 oz	740 g
Blueberries	2 lb	910 g
Sugar	8 oz	230 g
Cornstarch	2½ oz	70 g
3-2-1 Pie Dough (page 231)	1 lb 6 oz	620 g
Egg Wash (page 1064)	As needed	As needed

1. Combine all the berries in a bowl and toss with the sugar and cornstarch.

2. Divide the mixture evenly among twenty ramekins (12 fl oz/360 mL each).

3. Roll out the pie dough ¼ in/0.6 cm thick. Cut into 20 rounds big enough to cover the ramekins, approximately 4 in/10 cm in diameter.

4. Top the filled ramekins with the pie dough rounds. Lightly brush with egg wash.

5. Bake at 325°F/163°C until the tops are golden brown, about 20 minutes.

6. Serve warm.

SPICED APPLE AND DRIED FIG COBBLERS

MAKES 20 COBBLERS (12 FL OZ/360 ML EACH)

INGREDIENT	U.S.	METRIC
Granny Smith apples	15	15
Light brown sugar	8 oz	230 g
Ground cinnamon	1½ tsp	3 g
Ground nutmeg	½ tsp	1 g
Port, tawny	14 oz	400 g
Red wine	14 oz	400 g
Water	14 oz	400 g
Granulated sugar	10 oz	280 g
Lemon juice	1 oz	30 g
Oranges, cut into sixths (with peel)	2	2
Cinnamon sticks	2	2
Cloves	3	3
Black peppercorns, cracked	1 tbsp	10 g
Star anise, cracked	1	1
Dried figs, stem ends removed	1 lb 10 oz	740 g
3-2-1 Pie Dough (page 231)	1 lb 6 oz	620 g
Egg Wash (page 1064)	As needed	As needed

1. Peel and core the apples. Cut into slices ¼ in/0.6 cm thick and toss with the brown sugar, ground cinnamon, and nutmeg. Set aside.

2. To prepare the poaching liquid, combine the port, red wine, water, granulated sugar, lemon juice, oranges, cinnamon sticks, cloves, peppercorns, and star anise in a pot and simmer gently for 20 minutes.

3. Strain the liquid into another pot. Add the figs and simmer until the figs are tender, about 20 minutes. Drain. (The liquid can be reserved for poaching other fruit.)

4. Cut the figs into quarters. Combine the figs with the apples.

5. Divide the filling evenly among twenty ramekins (12 fl oz/360 mL each).

6. Roll out the pie dough ¼ in/0.6 cm thick. Cut into 20 rounds big enough to cover the tops of the ramekins, approximately 4 in/10 cm in diameter.

7. Top the filled ramekins with the dough rounds. Lightly brush with egg wash.

8. Bake at 350°F/177°C until the tops are golden brown, about 20 minutes.

9. Serve warm.

APPLE CRISP

MAKES 20 SERVINGS (4 FL OZ/120 ML EACH)

INGREDIENT	U.S.	METRIC
CRISP TOPPING		
Quick-cooking rolled oats	14 oz	400 g
Whole wheat flour	6¼ oz	180 g
Dark brown sugar	1 lb	450 g
Sliced almonds, coarsely chopped	3¼ oz	90 g
Ground cinnamon	1 tsp	2 g
Butter, cold, cut into small cubes	12 oz	340 g
APPLE FILLING		
Golden Delicious apples, peeled, cored, and sliced ⅛ in/0.3 cm thick	36	36
Butter, cubed	8 oz	230 g
Light brown sugar	1 lb	450 g
Ground cinnamon	2 tsp	4 g
Dark raisins	4 oz	110 g
Golden raisins	4 oz	110 g
Salt	½ tsp	3 g
Lemon juice	As needed	As needed

1. To prepare the topping, combine the oats, flour, sugar, almonds, and cinnamon and toss together. Rub the butter into the mixture so that it resembles coarse meal.

2. Spread the topping mixture on a parchment-lined sheet pan and bake at 325°F/163°C until golden brown, 15 to 20 minutes. Cool.

3. To prepare the filling, sweat the apples in the butter in a large pan, stirring occasionally until they are just beginning to soften, about 5 minutes. Add the sugar and cinnamon, stirring to coat, and continue cooking until the apples are tender, about 5 minutes. Stir in the raisins and salt. Add lemon juice as necessary. Cool completely.

4. Divide the apple mixture evenly among twenty ramekins (4 fl oz/120 mL each). Top with the crisp topping.

5. Bake at 350°F/177°C until heated through, about 15 minutes.

6. Serve warm.

VARIATION

You can substitute other seasonal fruits for the apples.

APPLE STRUDEL

MAKES 2 STRUDELS (24 IN/61 CM EACH), 24 SERVINGS

INGREDIENT	U.S.	METRIC
Granny Smith apples	5 lb	2.27 kg
Raisins	4 oz	110 g
Cinnamon Sugar (page 1070)	8 oz	230 g
Dried bread crumbs	6 oz	170 g
Butter, melted	8 oz	230 g
Strudel Dough (page 243)	1 lb 12 oz	790 g

1. Peel and core the apples. Cut into slices ¼ in/0.6 cm thick and toss with the raisins and cinnamon sugar.

2. Toss the bread crumbs with 2 oz/60 g of the butter.

3. Cover a work surface with a large linen cloth and dust the cloth with bread flour. Divide the dough in half; set one portion aside, covered. Roll the other portion into a rectangle 12 by 18 in/30 by 46 cm on the floured cloth. Let the dough relax for 15 minutes, covered or buttered to prevent drying.

4. To stretch the dough, work with two people on opposite sides of the table. Place your hands under the dough and begin to lift and stretch it from the center out. Continue stretching until the dough is very thin and almost transparent.

5. Brush the dough with 4 oz/110 g of the remaining melted butter. Sprinkle half the bread crumbs evenly over the entire surface of the stretched dough and then place half of the sliced apples in a strip along the long edge of the dough. Roll up the dough, starting by lifting up one edge of the linen, then continuing to use the linen to help you roll so that the pastry forms a tight log. Transfer the strudel to a sheet pan and repeat with the remaining dough and filling. Transfer the strudel to the refrigerator and chill for at least 30 minutes.

6. Brush the tops of the strudels with the rest of the melted butter. Vent the tops of the strudels by making 1-in/3-cm cuts in the dough at 2-in/5-cm intervals.

7. Bake at 350°F/177°C until light golden brown, about 25 minutes.

8. Serve immediately.

WARM APPLE CHARLOTTES

MAKES 12 CHARLOTTES (4½ FL OZ/135 ML EACH)

INGREDIENT	U.S.	METRIC
Butter	10 oz	280 g
Granny Smith apples, peeled, cored and sliced ⅛ in/0.3 cm thick	2 lb	910 g
Vanilla beans, seeds only	1	1
Light brown sugar	4 oz	110 g
Ground ginger	1 tsp	2 g
Apricot jam	4 oz	110 g
Brandy	4 oz	110 g
Lemon juice	1 oz	30 g
Wheat Pullman Loaves (page 134)	1	1

1. Place 2 oz/60 g of the butter in a sauté pan over medium-high heat and let it melt but not brown. Add the apples, vanilla bean seeds, sugar, and ginger and cook until the apples are just tender, about 5 minutes. Melt the remaining 8 oz/230 g of butter and reserve.

2. Add the apricot jam, brandy, and lemon juice to the apples, bring to a simmer, and cook over medium heat until nearly all the liquid has evaporated. Remove from the heat and let cool.

3. Remove the crust from the Pullman loaf and slice it into ¼-in/0.6-cm slices.

4. Brush each slice of bread with the melted butter. Quarter twenty slices.

5. Using seven or eight bread slice quarters per mold, line the sides of twelve ramekins (4½ oz/130 g each), slightly overlapping the pieces as necessary to completely cover the sides.

6. Using a 3-in/8-cm round cutter, cut twenty-four circles from the remaining Pullman slices. Place a round in the base of each ramekin.

7. Fill each ramekin with apple filling, pressing it down gently to pack it lightly. Top each filled ramekin with another Pullman round.

8. Bake at 375°F/191°C until golden brown, about 50 minutes. Unmold and serve warm with a sauce of choice and whipped cream if desired.

CRANBERRY PEAR STRUDEL

MAKES 2 STRUDELS (24 IN/61 CM EACH), 24 SERVINGS

INGREDIENT	U.S.	METRIC
Dried cranberries	4 oz	110 g
White rum	2 oz	55 g
Dried bread crumbs	4 oz	110 g
Butter	12 oz	340 g
Bartlett pears	5 lb	2.27 g
Cinnamon Sugar (page 1070)	6 oz	170 g
Lemon juice	2 oz	60 g
Strudel Dough (page 243)	1 lb 12 oz	790 g

1. Soak the cranberries in the rum for 30 minutes or until fully plumped; drain.

2. Sauté the bread crumbs in ½ oz/14 g of the butter until golden brown.

3. Peel and core the pears. Cut into slices ¼ in/0.6 cm thick and combine with the cranberries, cinnamon sugar, and lemon juice.

4. Cover a work surface with a large linen cloth and dust the cloth with bread flour. Divide the dough in half; set one portion aside, covered. Roll the remaining portion into a rectangle 12 by 18 in/30 by 46 cm on the floured cloth. Let the dough relax for 15 minutes, covered or buttered to prevent drying. Melt the remaining butter.

5. To stretch the dough, work with two people on opposite sides of the table. Place your hands under the dough and begin to lift and stretch the dough from the center out. Continue stretching until the dough is very thin and almost transparent. Be careful not to use fingertips, as this can cause tearing.

6. Brush the dough with 4 oz/110 g of the remaining butter. Sprinkle half the bread crumbs evenly over the entire surface of the stretched dough, then place half of the sliced pears in a strip along one the long edge of the dough. Roll up the dough, starting by lifting one edge of the linen, then continuing to use the linen to help you roll so that the pastry forms a tight log. Transfer to a sheet pan and repeat with the remaining dough and filling.

7. Brush the tops of the strudels with the rest of the melted butter. Vent the tops of the strudels by making 1-in/3-cm cuts in the dough at 2-in/5-cm intervals.

8. Bake at 375°F/191°C until light golden brown. Brush the strudels again with butter and bake until golden brown, about 25 minutes.

9. Serve immediately.

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FILLED AND ASSEMBLED CAKES AND TORTES

When selecting components to build a cake or torte, it is important to consider the combination of flavors and textures. Classic cakes and tortes are fine examples of flavor combinations and appealing designs and offer a foundation of inspiration for contemporary applications. Contemporary cakes and tortes explore new flavor combinations generated from the globalization of cuisine and culture.

BASICS OF CAKE ASSEMBLY

FILLINGS FOR CAKES MAY complement or contrast with the flavor of the cake. For example, a chocolate cake could be filled with either a chocolate or a raspberry filling. The chocolate filling would make a richer cake, while the raspberry filling, with its fresh berry flavor and acidity, would cut the richness of the chocolate cake.

Texture is also important when selecting a filling for a cake. The general rule is that the texture of the filling should match that of the cake. Lighter aerated fillings should be used with lighter cakes, such as sponge or chiffon; a mousse filling should never be paired with a pound cake. Richer fillings such as paddled hard ganache or cream fillings are better choices for pairing with rich creamed cakes. When filling a cake with a rich, heavy filling, use less than you would if using a lighter, more delicate filling.

1. Cakes should be allowed to cool completely before cutting into layers. Cut the cakes into layers between ¼ and ½ in/0.6 cm and 1 cm thick. Typically, thinner layers will make a better cake than thicker layers. Fillings that are spread onto layers should generally be less than ½ in/1 cm thick and should not exceed the thickness of the cake layers. However, poured fillings such as Bavarian cream can be applied in layers thicker than the cake layers, as they are usually less rich and have a lighter texture than spread fillings.

2. Before slicing a cake into layers, trim any uneven areas from the sides and top. For the best results, use a cake-decorating turntable and a knife with a long, thin serrated blade. Set the cake on a cardboard cake round and then on the turntable. First divide the cake by eye into the desired number of layers. Then insert the knife into the side of the cake at the appropriate level and, holding the knife steady and level and slowly rotating the turntable, move the blade of the knife into the cake to cut the layer. Remove the layer and set aside; repeat as necessary.

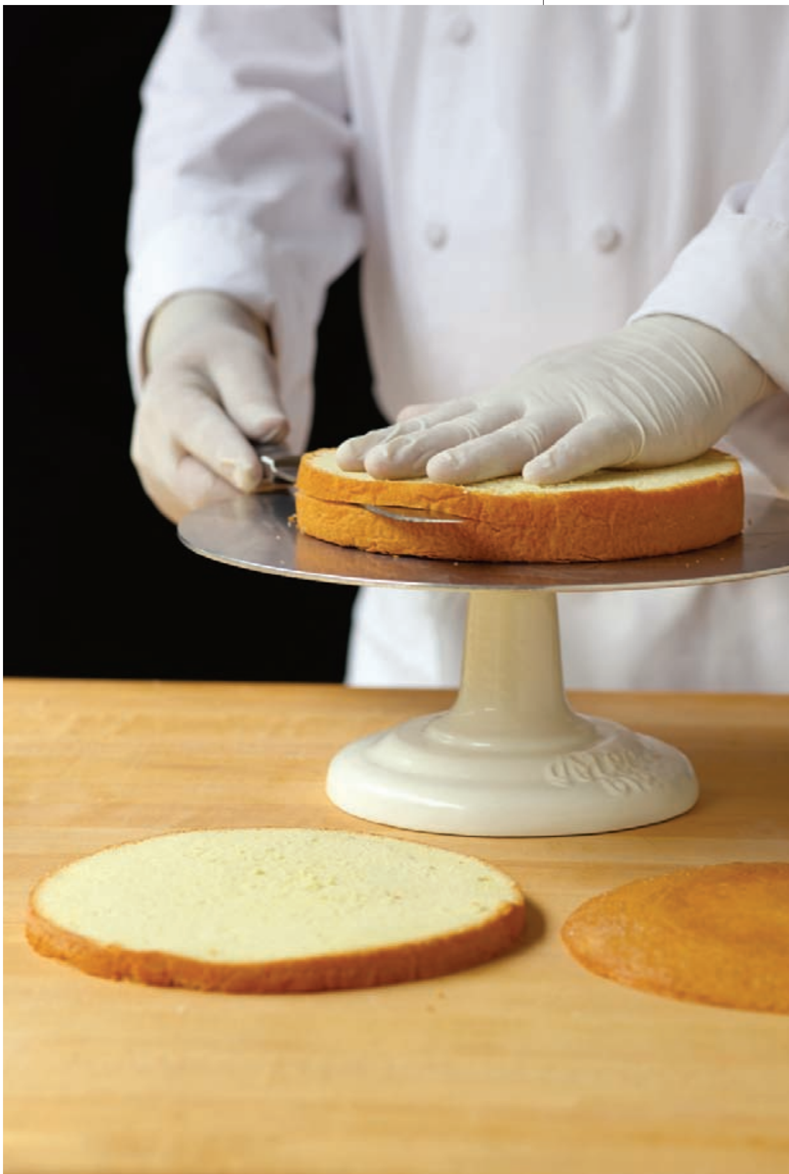
3. Brush loose crumbs from the cake layers. Brushing loose crumbs from the cake layers is done to prevent the crumbs from becoming incorporated into the final coat of icing or glaze.

4. Brush any of a variety of syrups, from plain simple syrup to one infused with spices or flavored with a liqueur, evenly over the cut surface of each layer as the cake is assembled. The syrup adds moisture to drier layers and adds flavor. The layers should be moistened but not drowned. In assembly, the cut surfaces of the cake should be moistened with simple syrup and should face the interior of the cake. For ease of application of any glaze or icing, the cut surface should not be exposed—seal with ganache, buttercream, or jam if necessary. The bottom of a cake may be coated with thinned chocolate to seal it and ease serving.

LEFT: *Soak the cut layers lightly with simple syrup.*

RIGHT: *Place the top layer onto a cake that has been filled with buttercream and press it gently into place.*

Cutting even layers is important to the final portioned presentation of a cake.



FUNCTIONS OF GARNISH

THE GARNISH FOR ITEMS in a bakery or pastry shop serves several important functions, one of which is adding visual appeal. Although a perfectly iced or glazed but otherwise unadorned cake can be a thing of beauty, it requires more interest and intricacy to entice most customers. Garnishing also gives bakers or pastry chefs a chance to display their skill. They can use their imagination, creativity, and knowledge to garnish cakes and pastries, using techniques and ingredients in unique combinations to make items look enticing and exciting.

Garnish can also be used to indicate the flavors and ingredients in the cake or pastry item. This serves the customers, helping them make a selection by informing them of the flavors used in the cake or pastry. For example, a Black Forest cake is a chocolate cake with a filling of cherries, and the typical garnish is chocolate shavings and whole preserved cherries.

Classic cakes, tortes, and pastries often have a specific, traditional way in which they have been garnished since their inception. The décor (garnish) of an item like this is always the same, serving both as a way to identify these items and as homage to the place or person responsible for the original cake or pastry.

In garnishing a cake or torte, there are two basic approaches to the décor. The cake may be thought of as a whole, or it may be considered in terms of portions. Decorating a cake with portions in mind is an approach that developed in pastry shops where cakes are traditionally sold by the slice. Decorating cakes as a whole is the preferred approach where cakes are sold as a whole piece.

The final garnish on a cake can be used to illustrate the flavors contained within or to add a decorative element.

MOLDING CAKES

CAKES ASSEMBLED IN A mold are those with delicate fillings that must set before the cake can be sliced and served. Examples of molded cake fillings include gelatin-based Bavarian cream, gelatin-based mousse, and softened ice cream.

1. Prepare the mold. A cake ring, also known as an *entremet ring*, may be used, in which case the ring should be set on a cardboard cake round on a flat sheet pan so the cake has a stable, movable, level base. Closed molds, such as bowls used to prepare charlottes or bombes, or cake pans may also be used. If a closed mold is used, the cake will be inverted onto a serving plate, platter, or board when unmolded. Closed molds are often lined with plastic to ease unmolding.

2. Cut the cake layers to fit the mold. If the mold has graduated or tapered sides, the layers should have varying diameters to fit the mold. The layers may be cut so they will touch the sides of the mold, in which case their edges will be exposed when the cake is unmolded, making it necessary to finish or ice the sides of the cake. Or the layers may be cut so that a gap is left between the edge of the cake and the mold, and in this case the filling will surround the layers, serving as both icing and filling.

   In some instances, slices of cake may be used to line the sides of the mold as well. Used in this way, the cake adds an element of décor as well as flavor. Slices of roulade filled with jam are used to create the classic spiral finish for a charlotte royale. Layers of thin sponge cake tightly layered with jam may be sliced and used to create a basket weave or striped pattern. Other effects can be achieved using Joconde cake and stenciled, spread, or piped décor batter. Ladyfingers are the classic finish for charlotte russe.

3. Usually a cake layer is placed into the mold first. The exception is for molds such as bombes, which are inverted in unmolding so that the bottom becomes the top of the cake. In either case, cake and filling are added to the mold in alternating layers.

4. Each layer of cake should be moistened before it is placed in the mold.

5. Be sure to center the layers in the mold. The filling can be poured, spooned, or piped into the mold, but it is essential to add an equal amount each time to form layers of equal thickness.

6. You can add garnishes to the filling for additional flavor and textural interest. Fold the garnish ingredient into the filling to spread it evenly throughout the mixture, or sprinkle the garnish ingredients into the mold before adding the filling. The second technique is especially common with fresh fruit, to create a layer of garnish. Then the garnish is topped with filling (be sure the garnish remains evenly distributed and does not shift).

7. The top of a molded cake may be either filling or a cake layer. If a cake is to be iced with buttercream, the top layer must be cake. When the top of the cake will be glazed with a clear, marbleized, or lightly colored glaze, the top layer of the cake should be filling. Be sure to leave enough space at the top of the mold (approximately 1/8 in/0.3 cm) for the glaze.

8. Molded cakes are generally frozen or refrigerated in the mold so the filling and structure of the cake will be firm enough to withstand unmolding. To release the cake from the mold or ring, warm the sides by either dipping the mold in warm water or carefully running a lighted propane torch around the sides.

TOP LEFT: *Ladle mousse into the mold, and use a spatula to draw the mousse up the sides of the mold to give a smooth, even outer appearance.*

TOP RIGHT: *Place the insert(s) into the mold.*

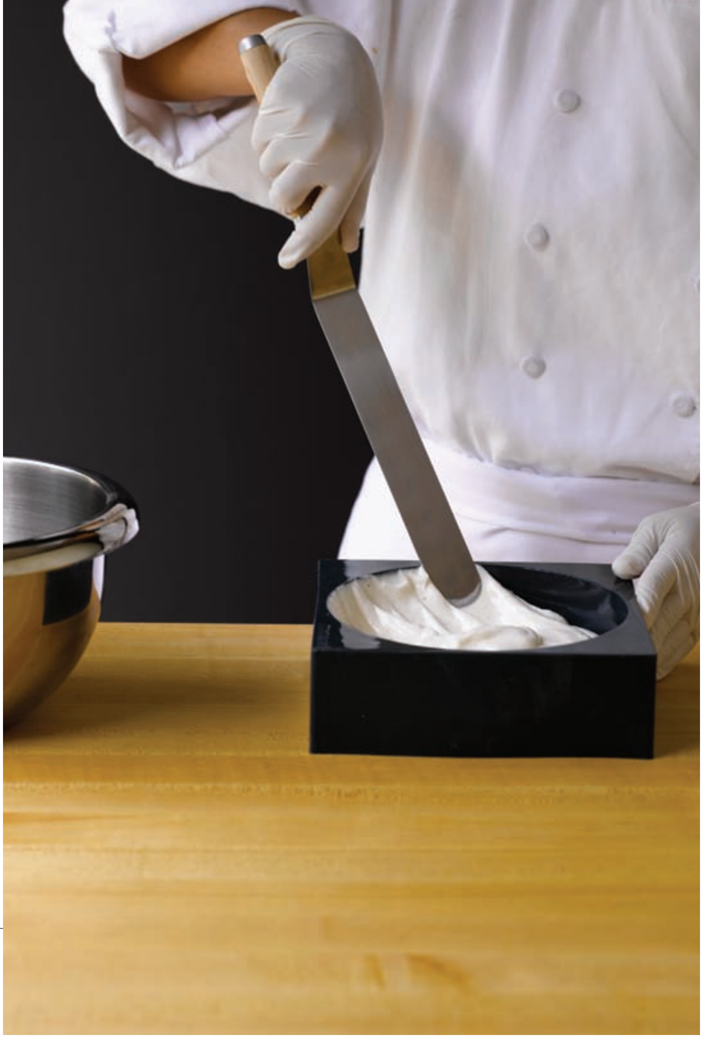
BELOW LEFT: *The insert should fit into the center, with room for excess mousse to flood up the sides and surround the insert.*

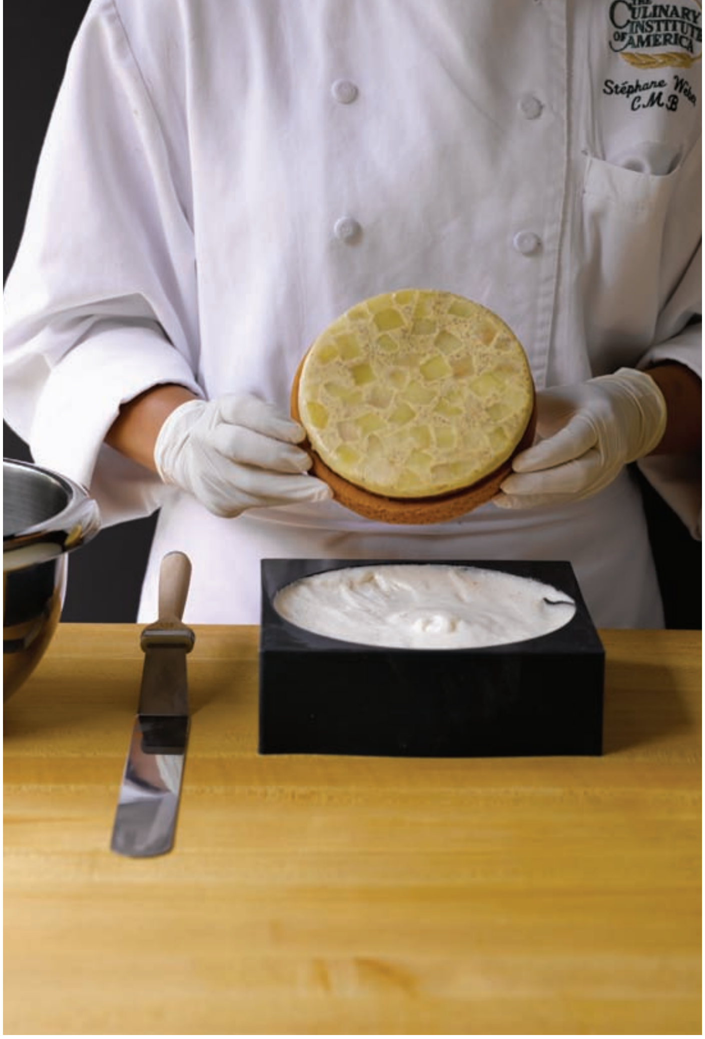
BELOW RIGHT: *Use a spatula to even out the base and remove excess mousse from the cake.*

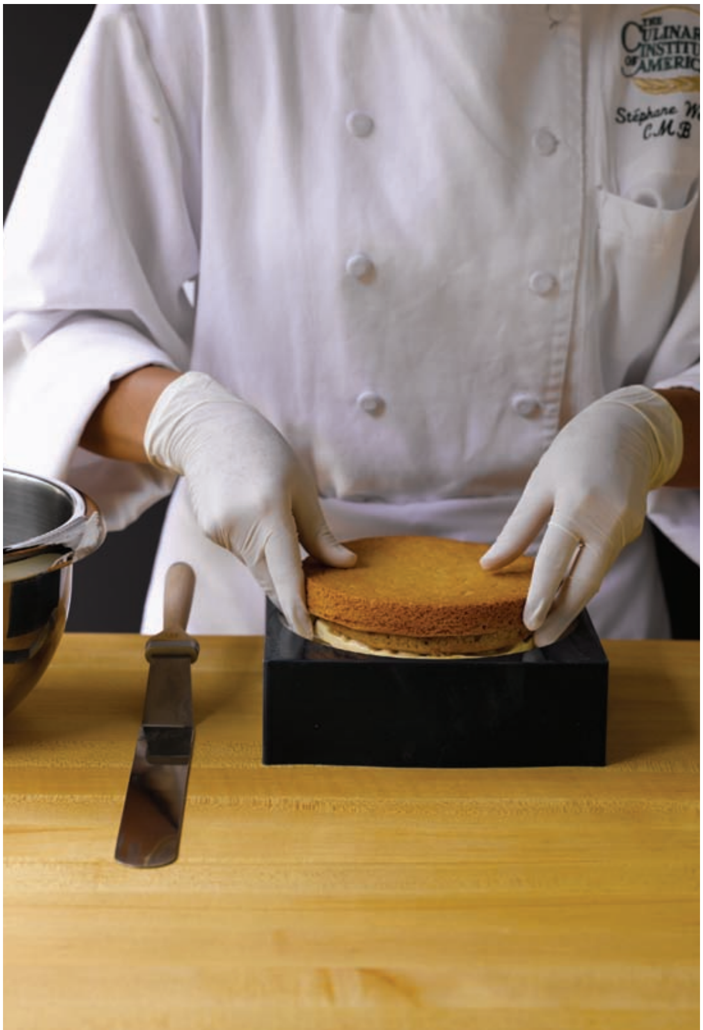
WORKING WITH GELATIN-BASED FILLINGS

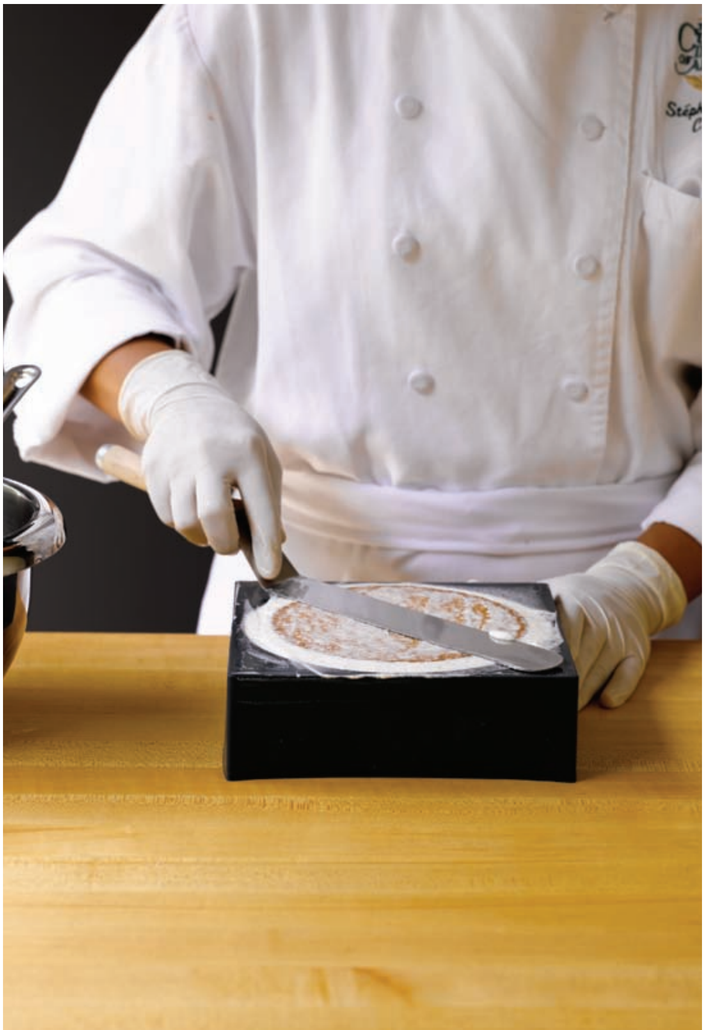
GELATIN-BASED FILLINGS can be poured or piped to fill a wide variety of cakes and pastries. In either case, the fillings must be used immediately after they are made, before they set up.

Assemble all components, ingredients, and necessary equipment before beginning to make the filling. Be sure all advance preparation (e.g., whipping cream, slicing cake layers, cutting up fruit) is done. Then prepare the filling and assemble the cake or pastry.









ASSEMBLING A TRADITIONAL LAYER CAKE

TRADITIONAL LAYER CAKES CALL for different equipment and finishing techniques from molded cakes. The cake should be filled according to the type of cake (i.e., Black Forest, Boston cream, etc.) or flavor profile you desire. Filling options include jam, pudding, pastry cream, curd, buttercream, paddled ganache, whipped cream, mousse, and the like.

1. To assemble the cake, slice into layers. Cakes should be cooled completely before cutting into layers. Typically, thinner layers (¼ in to 1 cm thick) make for more uniform, even flavored, and even-textured cakes. Divide the cake by eye into layers before cutting. Before beginning assembly, brush any loose crumbs from the layer surfaces.

2. Moisten with simple syrup if necessary. A simple syrup will add moisture to dryer layers (such as sponges). Simple syrup may also be flavored with liquor or infused with spice, thus lending additional flavor to a product. Syrup should be spread over the cut, interior-facing cake layers. The layers should be moistened, not soaked.

3. Place a dab of the filling or icing in the center of a cake round the same diameter as the cake and center the first cake layer on it. For ease of application of any glaze or icing, as well as for serving, the top and bottom layers of a cake should never be a cut surface.

4. Spread a layer of filling evenly over the layer. The amount of filling is determined by the type of filling used, its consistency (i.e., its lightness or density), and the intensity of its flavor. If the filling is the right consistency for piping, a good way to ensure an even layer is to use a pastry bag and pastry tip to fill the cake layers. Keep in mind that too much filling can cause the layers to slip as the cake is assembled and sliced. To keep certain types of fillings from oozing out between the layers as the cake is assembled or sliced, you can pipe a ring of buttercream or other icing around the edge of each layer before adding the filling.

5. As you assemble the cake, take time to straighten the layers, if necessary.

6. Brush away any excess crumbs from the sides of the cake.

7. Once the cake is assembled, apply a thin layer of the icing or, in some instances, the filling or a jam, to the top and sides of the cake for the seal or crumb coat. This coat adheres any remaining crumbs onto the cake, preventing them from becoming incorporated in the final coating of icing or glaze and marring its appearance. The crumb coat does not have to be the same icing as the final coat. A complementary flavor may be chosen; anything that will seal the cake, thus facilitating the application of the final coat, is appropriate.
The layer should be thin to ensure that there will not be too much icing applied to the cake.

8. The cake, with the crumb coat, is often refrigerated for an hour or so to allow the coating to set before applying the final coating of icing. This will ease the application of the final icing and ensure a smooth finished surface.

ICING CAKES

WHEN ICING A CAKE, you may wish to use a turntable. Some pastry chefs prefer to hold the cake (on its cardboard circle) on their fingertips and rotate it as they work. Either approach can yield excellent results, although holding the cake on your fingertips requires more control than using a turntable.

The best and most consistent way to achieve a clean coat of icing is to apply two coats. First apply a thin seal coat or crumb coat and allow it to set completely under refrigeration. This coat does not necessarily have to be the same icing as the final coat; it is intended to attach any loose crumbs to the cake and prevent them from becoming incorporated in the final coat. Choose something that is a complementary flavor; it can be a jam or jelly, a buttercream, or ganache—anything that will seal the cake and ease the application of the final coat. This first coat should be very thin to ensure that there will not be too much icing applied to the cake overall; it may even be thin enough so that the layers of cake are visible through the coating on the side. After the first coat has set, apply the thicker second layer.

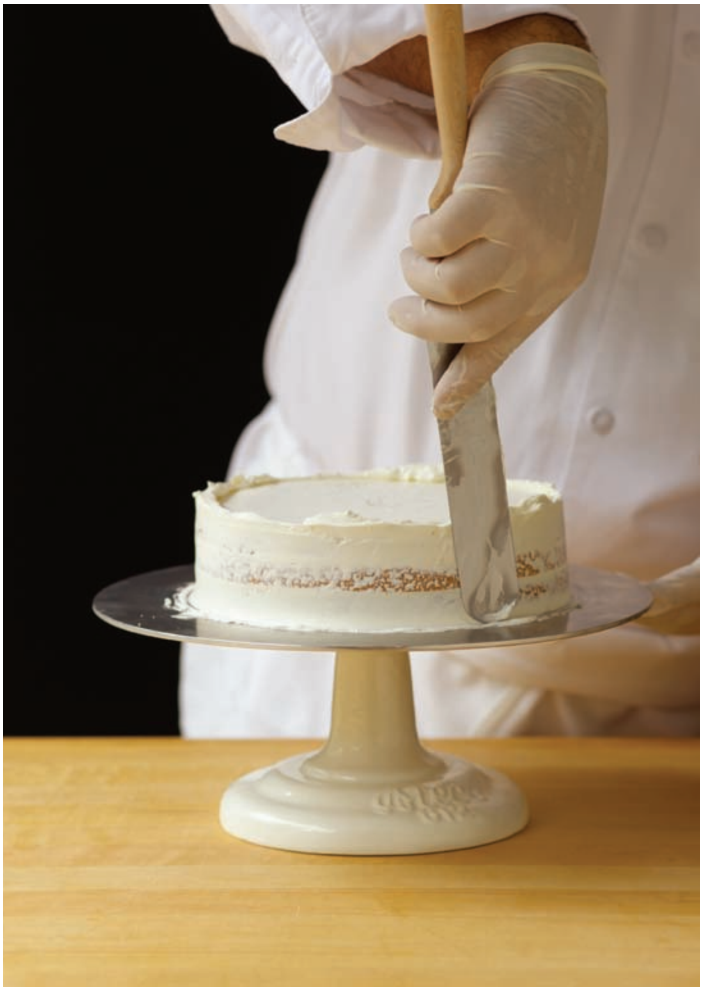
1. Apply the icing generously to the top of the cake first, spreading it smoothly and evenly all the way out to the edges of the cake and slightly over them. The final coat of icing on a cake should be applied after a first coating, often referred to as a crumb coat; this first coating seals the cake and, once chilled, facilitates the application of the final icing.

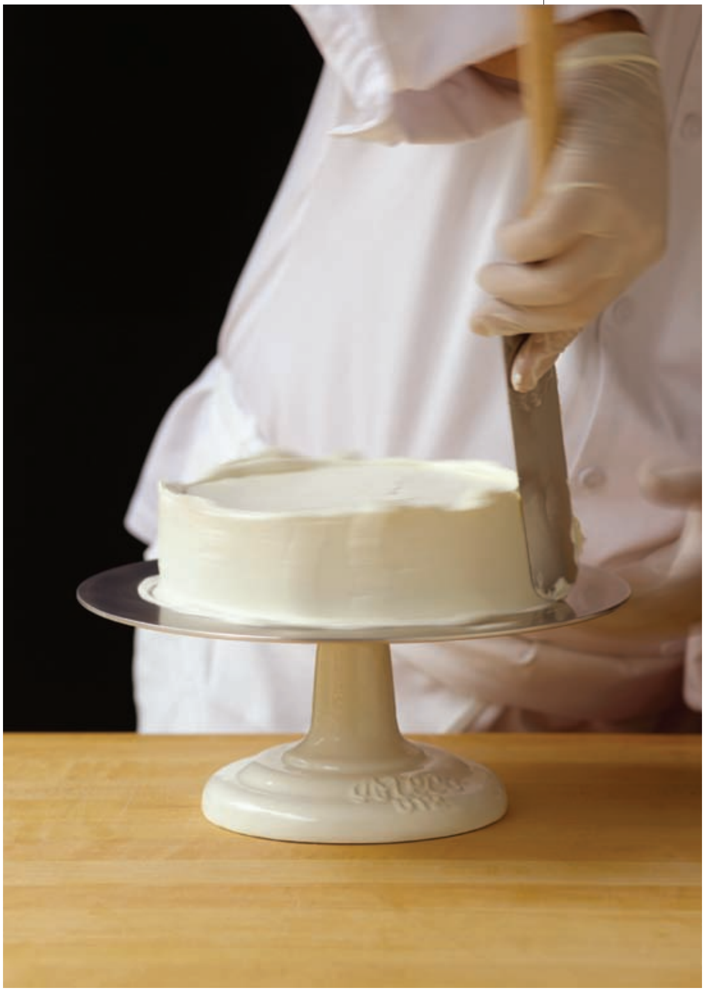
2. Ice the sides of the cake: holding the spatula vertically so its tip points to the base of the cake, spread the icing onto the sides. Apply a generous amount of icing to the sides to ease smoothing and ensure a smooth finish. The size of the spatula depends on the size of the cake as well as what feels comfortable to you.

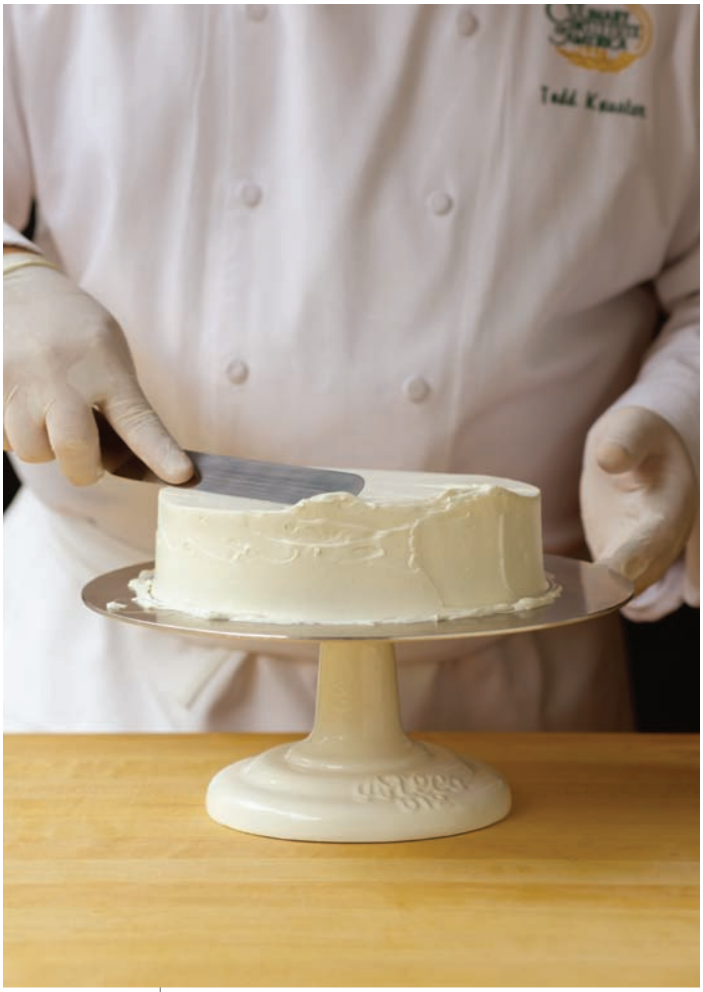
3. To smooth the sides of the cake, after applying the icing, hold the spatula vertically against the cake at a 45-degree angle, with the edge of the spatula touching the icing, and rotate the cake (by turning your hand or turning the turntable) against the spatula. (If you are holding the cake on your fingertips, hold the spatula with the handle below the cake; if you are working on a turntable, the tip of the spatula should just touch its surface.) This will not only smooth the icing but will also cause some

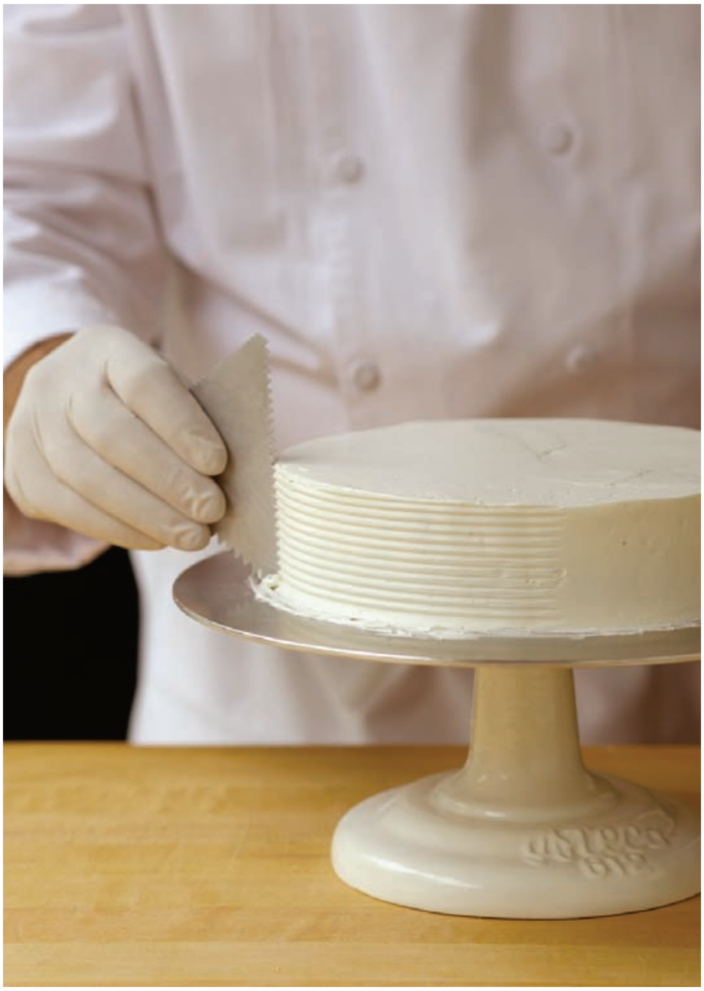
LEFT: *A crumb coat is applied to the sides of the cake.*

RIGHT: *Icing is applied to the sides after it is applied to the top.*









LEFT: *The top is smoothed last to create sharp, distinct edges.*

RIGHT: *Combing the sides of a cake is only one of the countless ways that it may be finished.*

of the excess icing from the sides to rise above the top of the cake, making a lip or ridge. Working from the edges toward the center and holding the spatula parallel to the top of the cake at a 45-degree angle, with its edge touching the surface, smooth the lip over and across the top to create a perfectly smooth top and a sharp angled edge.

4. At this point, the cake can be marked into portions if desired, using a straight-edged knife or long, straight metal spatula. A variety of simple garnishes or décor can also be applied to the top of the cake. Garnishes and decorations can be added by piping the icing, filling, or glaze (such as a shell border or rosettes), with or without additional garnishes such as chocolate cutouts or cigarettes, tuiles, florentines, fresh berries or jam, and the like. The side of the cake can be finished using a spatula to a smooth surface, or using a cake comb or other tool to leave a texture or pattern. Garnishes such as toasted chopped nuts, cake crumbs, or chocolate shavings may be applied to the side of a cake by sprinkling or gently pressing to adhere. More intricate cakes are often adorned with piping or other fine décor work.

GLAZING A CAKE

1. To glaze a traditional layer cake, apply a thin seal coat layer of something such as paddled ganache or jam to the cake. Refrigerate until the seal coat is set.

2. Prepare a glazing setup by placing a wire rack on a sheet pan. The rack will allow the glaze to run freely from the sides of the cake, while the sheet pan will catch the excess glaze, which, if it does not contain any crumbs, can be rewarmed and used on another item. Have ready a straight or offset long metal spatula for spreading the glaze. Before you glaze, if you desire, reserve some of the glaze for the décor.

3. Place the cake on the center of the wire rack. Check the consistency and temperature of the glaze. If it is too thick, rewarm it or, for glazes such as fondant, adjust the fluidity and temperature. The glaze should not be too warm, or it will not coat properly. It may run too much and could cause the seal coat to begin to melt, making it difficult to achieve the glossy look of a properly applied glaze. Be careful not to stir the glaze too much, as this will incorporate air and cause bubbles in the glaze on the surface of the cake.

4. Pour enough glaze onto the center of the cake to enrobe it. Working quickly, spread the glaze over the entire top of the cake with three swipes of a long metal icing spatula, working across the top of the cake in one direction (always pushing or drawing the glaze away from you) from one side to the other and then off the cake. Do not lift the spatula while it is on the cake, or it will pull up the seal coat and cause crumbs to become mixed with the glaze, destroying the finish; pulling or drawing the spatula toward you can have the same effect. In addition to covering the top of the cake, this technique will cause the glaze to run down over the sides, covering them as well. Once the top of the cake is covered, use the spatula to spread glaze over any small portions of the sides of the cake that were not covered.

5. Check the finish on the top of the cake. If any air bubbles have formed, they can be removed if you act quickly, using a sharp skewer, or by moving the flame of a propane torch over the surface.

Smooth the top of the glazed cake to create a uniform layer of glaze.

ENROBING A CAKE IN MARZIPAN OR OTHER ROLLED ICING

MARZIPAN IS OFTEN USED as a covering for cakes. It may be used as the final coating, or it may be used as an undercoating that is covered with an icing or glaze. Marzipan can be rolled thin in order to be covered with an icing or a glaze. Another example of a rolled icing used to cover cakes is rolled fondant, a formable mixture of gelatin, water, corn syrup, glycerin, and confectioners' sugar.

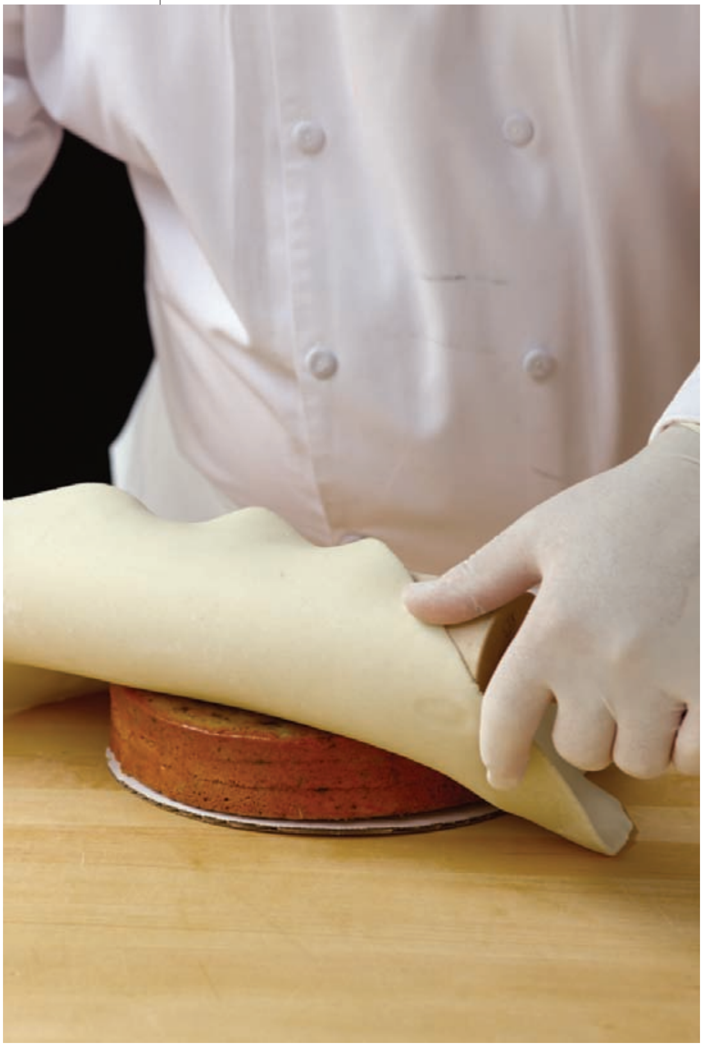
1. If it is to be covered, roll the marzipan very thin (approximately ¹⁄₁₆ in/0.15 cm). If it is to be the finished covering, roll it to approximately ¼ in/0.6 cm thick; this is thick enough to ensure a smooth finished surface.

2. Before applying the marzipan or other rolled icing, prepare the surface of the cake. Trim the sides so they are even, and apply a seal coat. The jam or buttercream coating should be thin so that the marzipan or icing will not slip or slide.

3. Apply the marzipan to the cake, using the palm of your hand in a circular motion to create a smooth, flat surface.

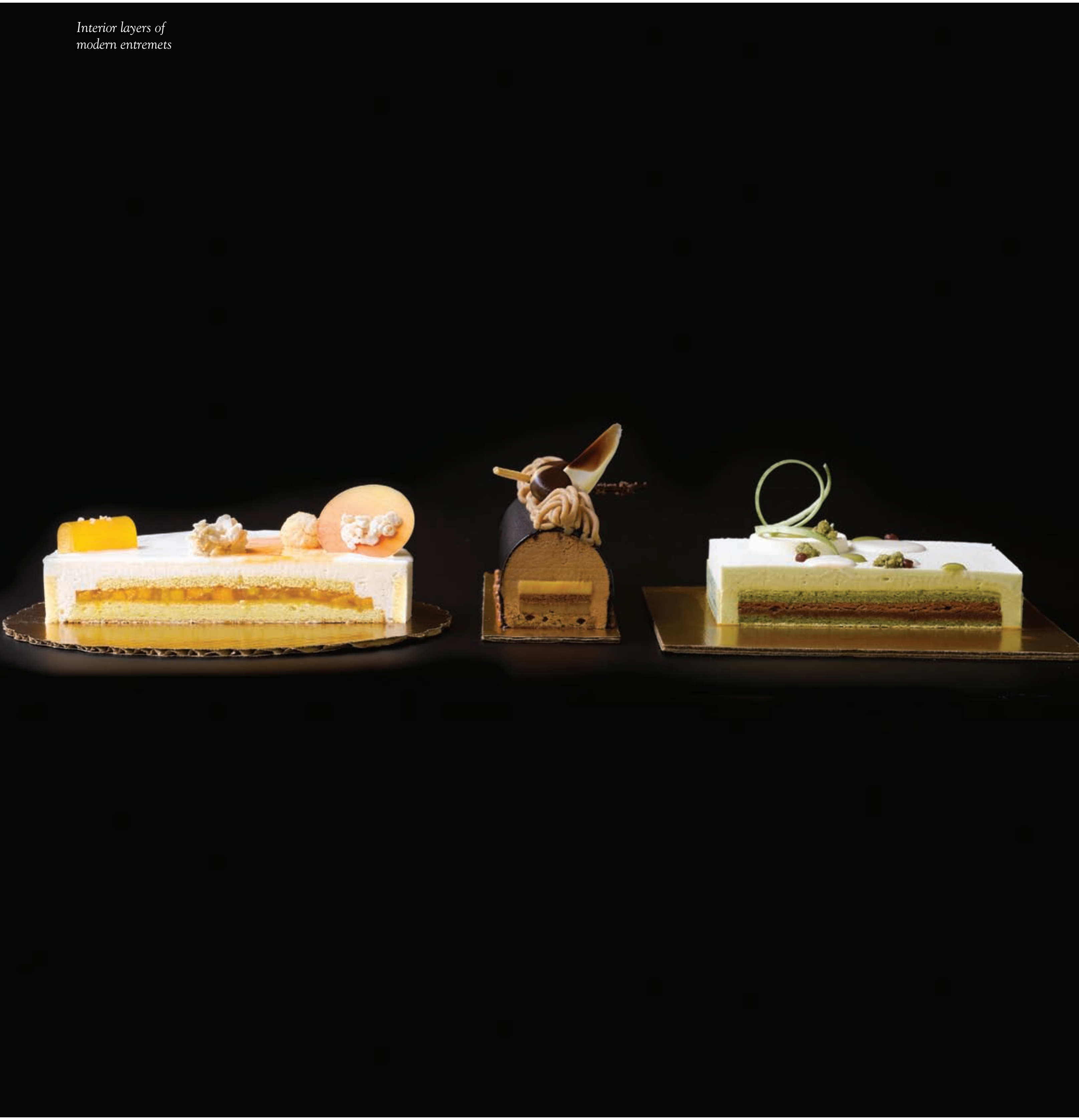
4. The cake is now ready to be finished.

TOP TO BOTTOM: *Green Tea Entremet (page 716), Sticky Rice Entremet (page 717), Chestnut Entremet (page 715)*



LEFT: *Use a rolling pin to apply a thin coat of marzipan. The cake should have a crumb coat of jam or buttercream to help the marzipan adhere to the cake.*

RIGHT: *Cutting a traditional Florentine garnish*



Interior layers of modern entremets

BAVARIAN CREAM TORTE

MAKES 1 TORTE (8 IN/20 CM), 10 SERVINGS

INGREDIENT	U.S.	METRIC
Vanilla Sponge (page 288), 8-in/20-cm round	1	1
Vanilla Simple Syrup (page 1079)	5 oz	140 g
Strawberry Yogurt Bavarian (page 453)	1 lb	450 g
Heavy cream, whipped	1 lb	450 g
Strawberries, halved	5	5
Dark chocolate shavings (see page 989)	1 oz	30 g

1. Place an 8-in/20-cm cake round on a sheet pan and place an 8-in/20-cm cake ring on top.

2. Slice the sponge cake into three even layers between ¼ and ½ in/0.6 cm and 1 cm thick.

3. Place the layer cut from the bottom of the cake into the bottom of the cake ring with the cut side up and moisten it with simple syrup. Ladle 8 oz/230 g of the Bavarian cream on top of the sponge and spread it into an even layer. Top with a second sponge layer, cut from the center of the cake, and press down gently. Moisten the sponge with simple syrup. Ladle in the remaining 8 oz/230 g Bavarian cream and spread it evenly. Moisten the cut side of the remaining piece of cake with simple syrup, place it cut side down on top of the filling, and press down gently.

4. Cover the torte with plastic wrap and refrigerate or freeze until fully set.

5. To finish the torte, remove the plastic wrap. Warm the sides of the cake ring using a propane torch or a towel moistened with warm water and carefully remove the ring.

6. Coat the top and sides of the torte with whipped cream, reserving 6 oz/170 g for the finishing décor. Using a pastry bag fitted with a #5 plain tip, pipe 10 small domes of whipped cream around the outer edge of the top of the torte to mark portions. Place a strawberry half on each dome, resting it at a 45-degree angle pointing toward the center of the torte.

7. Garnish the bottom quarter edge of the side of the torte by gently pressing the chocolate shavings to adhere.

CHARLOTTE ROYALE

MAKES 1 CAKE (8 IN/20 CM), 10 SERVINGS

INGREDIENT	U.S.	METRIC
Frangipane Cake (page 728), 13½ by 17½-in/34 by 44-cm sheet	1	1
Raspberry jam	2 lb	910 g
Raspberry Bavarian Cream (page 450)	2 lb	910 g
Vanilla Sponge (page 288), 8-in/20-cm round	1	1
Vanilla Simple Syrup (page 1079)	3 oz	90 g
Apricot Glaze (page 492), warm	1 lb	450 g

1. Trim the edges of the frangipane and cut crosswise into 3 equal pieces. Spread a thin layer of jam on one strip and top with a second strip. Spread with jam and top with the final strip of frangipane. Cut the layered cake into 1-in/3-cm strips and cut each strip into slices ¼ in/0.6 cm thick.

2. Line a domed mold (3 lb/1.36 kg) with plastic wrap, making sure some is hanging out of the mold. Line the mold with the frangipane slices to create a basket-weave pattern.

3. Fill the mold with the raspberry Bavarian cream. Moisten the sponge with the simple syrup, place it top down on the filling, and press down gently. Cover with plastic wrap and refrigerate until completely set.

4. Unmold the bombe onto a cardboard round and place on an icing screen. Warm the apricot glaze and apply to the entire surface of the bombe. Allow to set and serve immediately or refrigerate.

CHARLOTTE RUSSE

MAKES 1 CAKE (8 IN/20 CM), 10 SERVINGS

INGREDIENT	U.S.	METRIC
Chocolate Sponge (page 288), 8-in/20-cm round	1	1
Vanilla Simple Syrup (page 1079)	5 oz	140 g
Ladyfingers (page 378)	20–25	20–25
Chocolate Bavarian Cream (page 450)	8 oz	230 g
Bavarian Cream (page 450)	8 oz	230 g
White chocolate shavings (see page 989)	2 oz	60 g
Dark chocolate shavings (see page 989)	2 oz	60 g

1. Place an 8-in/20-cm cake ring on an 8-in/20-cm cardboard cake round. Trim the sponge to a 7½-in/19-cm round. Slice the sponge into two even layers between ¼ and ½ in/0.6 cm and 1 cm thick. Place one of the sponge layers in the bottom of the mold and moisten with simple syrup.

2. Line the inside of the ring with the ladyfingers, flat side facing in. Ladle the chocolate Bavarian cream on top of the sponge and spread it into an even layer. Top with the second layer of sponge and press down gently. Moisten the sponge layer with simple syrup. Ladle in the vanilla Bavarian cream and spread it evenly.

3. Cover with plastic wrap and refrigerate until the Bavarian cream has set completely.

4. Remove the plastic wrap and carefully lift away the cake ring.

5. Place a 4-in/10-cm ring in the center of the top of the cake and carefully fill it with the white chocolate shavings. Fill the space between the ring and the tops of the ladyfingers with the dark chocolate shavings. Remove the ring.

CHOCOLATE SABAYON TORTE

MAKES 1 TORTE (8 IN/20 CM), 10 SERVINGS

INGREDIENT	U.S.	METRIC
Chocolate Sponge (page 288), 8-in/20-cm round	1	1
Vanilla Simple Syrup (page 1079)	4 oz	110 g
Chocolate Sabayon Mousse (page 445)	1 lb 4 oz	570 g
Soft Ganache (page 483), whipped to medium peaks	1 lb	450 g
Cake crumbs	As needed	As needed
Chocolate triangles (see page 986)	10	10
Chocolate shavings (see page 989)	1 oz	30 g

1. Slice three even layers from the sponge, between ¼ and ½ in/0.6 cm and 1 cm thick). Moisten the sponge layers with simple syrup. Place one layer in the bottom of an 8-in/20-cm cake ring. Add 10 oz/280 g of the sabayon and spread it evenly. Place another sponge layer in the mold and top with the remaining 10 oz/280 g sabayon. Place the final sponge layer on top.

2. Cover with plastic wrap and refrigerate until the sabayon has set completely.

3. To finish the cake, remove the plastic wrap. Warm the sides of the cake ring using a propane torch or a towel moistened with warm water and carefully remove the ring.

4. Ice the cake with whipped ganache, reserving 4 oz/110 g for décor. Trim the edge with cake crumbs. Using a pastry bag fitted with a #5 plain tip, pipe 10 small domes of whipped ganache around the outer edge of the top of the cake to mark portions.

5. Fan the chocolate triangles around the cake, placing the base end of each at the center of the cake and fixing the opposite end to a piped dome so each stands at a 45-degree angle. Garnish the bottom quarter edge of the side of the cake by gently pressing the chocolate shavings to adhere.

WINE CREAM TORTE

MAKES 1 TORTE (8 IN/20 CM), 10 SERVINGS

INGREDIENT	U.S.	METRIC
Large strawberries	13	13
Vanilla Sponge (page 288), 8-in/20-cm round	1	1
Simple Syrup (page 1079)	3 oz	90 g
Wine Bavarian Cream (page 450)	1 lb	450 g
Heavy cream, whipped to medium peaks	1 lb	450 g
Dark chocolate shavings (see page 989)	As needed	As needed

1. Place an 8-in/20-cm cake ring on an 8-in/20-cm cardboard round and then on a sheet pan.

2. Halve 8 of the strawberries. Line the inside of the cake ring with the strawberry halves, with the cut sides facing out.

3. Slice 2 even layers from the sponge, between ¼ and ½ in/0.6 cm and 1 cm thick, and trim to 7-in/18-cm rounds. Place one layer in the bottom of the cake ring and moisten with simple syrup. Ladle 8 oz/230 g of wine Bavarian cream on top of the sponge and spread it into an even layer. Top with the second sponge layer and press down gently. Moisten the sponge with syrup. Ladle in the remaining 8 oz/230 g wine Bavarian cream and spread it evenly.

4. Cover with plastic wrap and refrigerate until completely set.

5. Remove the plastic wrap. Warm the sides of the cake ring using a propane torch or a towel moistened with warm water and carefully remove the ring.

6. Coat the top and sides of the cake with whipped cream, reserving 4 oz/110 g for garnish. Using a pastry bag fitted with a #5 plain tip, pipe 10 small domes of whipped cream around the outer edge of the top of the cake to mark portions. Slice the remaining strawberries in half and place a strawberry half on each dome.

7. Garnish the bottom quarter edge of the side of the cake by gently pressing the chocolate shavings to adhere.

BLACK FOREST CAKE

MAKES 1 CAKE (8 IN/20 CM), 10 SERVINGS

INGREDIENT	U.S.	METRIC
Chocolate Sponge (page 288), 8-in/20-cm round	1	1
Kirsch-flavored simple syrup (see "Liqueur-Flavored Simple Syrup," page 1079)	5 oz	140 g
Soft Ganache (page 483), whipped to medium peaks	1 lb	450 g
Cherry Pie filling (page 629)	12 oz	340 g
Heavy cream, whipped	10 oz	280 g
Brandied cherries	10	10
Chocolate shavings (see page 989)	2 oz	60 g

1. Slice three even layers from the sponge, between ¼ and ½ in/0.6 cm and 1 cm thick. Place one layer on an 8-in/20-cm cardboard cake round and moisten with simple syrup.

2. Using a pastry bag fitted with a #5 plain tip, pipe a ring of whipped ganache around the outer edge of the cake layer; then, leaving a gap of approximately 2 in/5 cm, pipe a circle of the ganache in the center of the layer. Fill the gap between the whipped ganache with the cherry filling. Top with a second layer of sponge and pipe the remaining ganache evenly over it. Top with the last layer of sponge.

3. Finish the top and sides of the cake with whipped cream. Using a #5 plain tip, pipe 10 domes of whipped cream around the outer edge of the top of the cake to mark portions. Garnish each dome with a brandied cherry.

4. Pile some chocolate shavings in the center of the cake and garnish the bottom edge of the side of the cake by gently pressing the chocolate shavings to adhere.

DOBOS TORTE

MAKES 1 TORTE (8 IN/20 CM), 10 SERVINGS

INGREDIENT	U.S.	METRIC
Dobos Sponge layers (page 299), 8-in/20-cm round	7	7
Brandy-flavored simple syrup (see "Liquor-Flavored Simple Syrup," page 1079)	6 oz	170 g
Mocha Buttercream (page 480)	1 lb 8 oz	680 g
Sugar	6 oz	170 g
Glucose syrup	1¼ oz	40 g
Lemon juice	¼ tsp	1.25 mL
Butter, soft	1 oz	30 g
Chocolate, melted, tempered (see page 904)	8 oz	230 g

1. Trim the edges of 6 of the Dobos layers to make them 8 in/20 cm in diameter. Place one layer on an 8-in/20-cm cardboard cake round. Moisten with simple syrup and, reserving 8 oz/230 g of the buttercream for décor, apply a thin, even layer of buttercream. Top with a second Dobos layer, moisten with syrup, and spread with buttercream. Repeat the process with the remaining trimmed layers. Finish the top and sides of the cake with buttercream.

2. To prepare caramel, combine the sugar, glucose syrup, and lemon juice in a heavy-bottomed saucepan set over medium heat and allow it to melt, stirring to dissolve. When all the sugar has dissolved, stop stirring and cook to the desired color. Remove from the heat and stir in the butter.

3. Spread the caramel in an even layer over the reserved Dobos layer. Cut into 10 even wedges and allow to cool completely. Dip the rounded edge of each wedge in the tempered chocolate. Allow to set completely.

4. Mark the torte into 10 portions. Using a pastry bag fitted with a #5 plain tip, pipe a small dome of buttercream on each portion. Fan the caramel-coated wedges around the torte, placing the pointed tip of each wedge at the center of the torte and fixing the opposite end in a buttercream dome to create a "pinwheel" effect.

HAZELNUT TORTE

MAKES 1 TORTE (8 IN/20 CM), 10 SERVINGS

INGREDIENT	U.S.	METRIC
Hazelnut Sponge (page 300), 8-in/20-cm round	1	1
Brandy-flavored simple syrup (see "Liquor-Flavored Simple Syrup," page 1079)	4 oz	110 g
Raspberry jam	1½ oz	40 g
Hazelnut Buttercream (page 480)	2 lb	910 g
Hazelnut Florentine (page 689), 8-in/20-cm round	1	1
Hazelnuts, toasted and ground	2 oz	60 g

1. Slice three even layers from the sponge, between ¼ and ½ in/0.6 cm and 1 cm thick. Place one layer on an 8-in/20-cm cardboard round and moisten with simple syrup. Spread the jam in a thin, even layer on the first layer of sponge, then apply an even coating of buttercream. Top with a second sponge layer and press down gently. Moisten with syrup, apply an even coating of buttercream, and top with the remaining sponge layer.

2. Finish the top and sides of the torte with buttercream. Mark into 10 portions. Using a pastry bag fitted with a #5 plain tip, pipe a small dome of buttercream on each portion.

3. Fan the Florentine wedges around the torte, placing the pointed tip of each at the center of the torte and laying the opposite end on a dome to create a "pinwheel" effect.

4. Garnish the bottom quarter edge of the side of the torte by gently pressing the ground hazelnuts to adhere.

HAZELNUT FLORENTINE

MAKES 6 CIRCLES (8 IN/20 CM EACH)

INGREDIENT	U.S.	METRIC
Sugar	8 oz	230 g
Heavy cream	7 oz	200 g
Butter	2 oz	60 g
Hazelnuts, finely ground	12 oz	340 g
Cake flour	½ oz	14 g

1. Trace six 8-in/20-cm circles on parchment paper. Line sheet pans with the parchment paper. Combine the sugar, cream, and butter in a saucepan and bring to a boil.

2. Blend in the hazelnuts and flour. Remove the pan from the heat.

3. Divide the mixture among the six circles; spread thinly and evenly.

4. Bake at 300°F/149°C until golden brown, about 20 minutes.

5. Allow the Florentines to rest on the sheet pans until they are set and no longer sticky, but are still warm.

6. Place an 8-in/20-cm cardboard cake round on top of each Florentine and trim the edges using a pastry wheel.

7. Immediately cut each round into 10 even wedges. Cool completely before applying to a cake.

VARIATIONS

CHOCOLATE-DIPPED FLORENTINES *Dip ¼ in/0.6 cm of the rounded end (opposite the tip) of each wedge in tempered chocolate.*

CONFECTIONERS' SUGAR–DUSTED FLORENTINES *Place a 7-in/18-cm cardboard cake round on top of the Florentine wedges while they are assembled in a circle and dust with confectioners' sugar.*

MOCHA TORTE

MAKES 1 TORTE (8 IN/20 CM), 10 SERVINGS

INGREDIENT	U.S.	METRIC
Vanilla Sponge (page 288), 8-in/20-cm round	1	1
Chocolate Sponge (page 288), 8-in/20-cm round	1	1
Coffee Simple Syrup (page 1079)	8 oz	230 g
Chocolate Buttercream (page 480)	1 lb 6 oz	620 g
Marzipan coffee beans, for garnish	10	10
Hard Ganache (page 484)	6 oz	170 g
Chocolate shavings (see page 989)	2 oz	60 g

1. Slice two even layers from each of the sponges, between ¼ and ½ in/0.6 cm and 1 cm thick.

2. Place a layer of the vanilla sponge on an 8-in/20-cm cardboard cake round and moisten with simple syrup. Apply an even coating of buttercream to the sponge layer, reserving 6 oz/170 g of the buttercream for décor. Top with a layer of chocolate sponge and press it down gently. Moisten with simple syrup and apply an even coating of buttercream. Top with the remaining vanilla sponge layer and apply an even coating of buttercream. Top with the remaining chocolate sponge layer.

3. Coat the top and sides of the torte with buttercream. Mark into 10 portions. Using a pastry bag fitted with a #5 plain tip, pipe a domed rosette of buttercream on each portion. Place a marzipan coffee bean in the center of each rosette. Using a parchment cone, pipe a small dome of ganache in the center of the torte. Then pipe a line of ganache on each marked portion, beginning at the center, looping around the rosette, and connecting again at the center to form a teardrop.

4. Garnish the bottom edge of the side of the torte with the chocolate shavings.

CHOCOLATE ALMOND TORTE

MAKES 1 TORTE (8 IN/20 CM), 10 SERVINGS

INGREDIENT	U.S.	METRIC
Chocolate Almond Cake (page 306), 8-in/20-cm round	1	1
Apricot jam	9 oz	260 g
Hard Ganache (page 484)	10 oz	280 g

1. Slice the cake into two even layers. Place one layer on an 8-in/20-cm cake round. Spread a thin layer of jam on the layer and top with the second layer.

2. Coat the top and sides of the cake with the remaining jam.

3. Glaze the torte with the ganache, reserving 4 oz/110 g for décor. Chill for 15 minutes.

4. Mark the torte into 10 portions. Rewarm the reserved ganache and, using a parchment cone, decorate each portion with a filigree of ganache.

HAVANA TORTE

MAKES 1 TORTE (8 IN/20 CM), 10 SERVINGS

INGREDIENT	U.S.	METRIC
Havana Cake (page 303), 8-in/20-cm round	1	1
Chocolate Buttercream (page 480)	1 lb 8 oz	680 g
Hard Ganache (page 484), warm	1 lb	450 g
Chocolate Cigarettes (see page 987)	10	10

1. Place the cake on an 8-in/20-cm cardboard cake round. Reserve 4 oz/110 g of the buttercream for décor and coat the top and sides of the cake with the remainder. Refrigerate until the buttercream is firm.

2. Glaze the torte with the warm ganache. Allow to set.

3. Mark the torte into 10 portions. Using a pastry bag fitted with a #5 plain tip, pipe a small dome of buttercream on each portion. Place a chocolate cigarette on each portion so that it rests on the dome of buttercream.

SPANISH VANILLA TORTE

MAKES 1 TORTE (8 IN/20 CM), 10 SERVINGS

INGREDIENT	U.S.	METRIC
Spanish Vanilla Cake (page 305), 8-in/20-cm round	1	1
Brandy-flavored simple syrup (see "Liquor-Flavored Simple Syrup," page 1079)	8 oz	230 g
Apricot jam	6 oz	170 g
Marzipan for Modeling and Cake Covering (page 1020)	13 oz	370 g
Hard Ganache (page 484)	1 lb	450 g
Marzipan flowers (see page 991), ¾ in/2 cm in diameter	10	10

1. Slice three even layers from the cake, between ¼ and ½ in/0.6 cm and 1 cm thick. Place one layer on an 8-in/20-cm cardboard cake round and moisten with simple syrup. Apply a thin coating of apricot jam to the layer. Top with a second layer and press down gently. Moisten with simple syrup, apply a thin coating of apricot jam, and top with the final layer of cake. Apply a thin coating of apricot jam to the top and sides of the cake, reserving 1 oz/30 g of the jam for décor.

2. On a work surface lightly dusted with sifted confectioners' sugar, roll out the marzipan to a circle about 15 in/38 cm in diameter and ⅛ in/0.3 cm thick. Carefully lift up the marzipan and drape it over the cake so it completely covers it. Press the marzipan against the top and sides of the cake so it adheres well. Using the palm of your hand in a rotating motion, smooth the marzipan as necessary. Using a sharp paring knife, trim the marzipan at the bottom edge of the cake.

3. Glaze the torte with the ganache, reserving 4 oz/110 g of the ganache for décor. Mark the torte into 10 portions.

4. Place the remaining ganache in the mixer and beat on medium speed with the paddle attachment until light in color and texture. Using a pastry bag fitted with a #3 plain tip, pipe a small dome of ganache on each portion. Place a marzipan flower on each dome. Using a parchment cone, pipe a small dot of apricot jam in the center of each flower.

OPERA TORTE

MAKES 1 TORTE (8 IN/20 CM SQUARE)

INGREDIENT	U.S.	METRIC
Joconde (page 308), two sheet pans	1	1
Dark chocolate, melted	4 oz	110 g
Vegetable oil	½ oz	14 g
Coffee Simple Syrup (page 1079)	8 oz	230 g
Medium Ganache (page 483), lightly whipped	6 oz	170 g
Coffee Buttercream (page 480)	8 oz	230 g
Hard Ganache (page 484), warmed	6 oz	170 g

1. Line a 10-in/25-cm cardboard cake round with a parchment circle of the same size. Cut the Joconde sheet into three 8-in/20-cm squares.

2. Combine the chocolate and vegetable oil. Turn one Joconde layer upside down and thinly coat the top surface with the chocolate mixture. Place it chocolate side down on the parchment-lined cake round. Moisten the layer with simple syrup and spread with an even coating of medium ganache. Top with the next layer of cake, press it down gently, and coat evenly with 6 oz/170 g of the buttercream. Top with the final layer of cake, press down gently, and moisten with simple syrup.

3. Coat the top of the cake with the remaining buttercream. Refrigerate until the buttercream is firm.

4. Invert the cake carefully, peel the parchment circle off the bottom of the cake, reinvert, and place the cake, buttercream side up, on an 8-in/20-cm cardboard square. Glaze the top only with the hard ganache, reserving 2 oz/60 g of the ganache for décor. Allow the glaze to set, then trim the edges to make a perfect square.

5. Using a parchment cone, pipe the word "opera" across the top of the torte with cooled hard ganache.

ZEBRA TORTE

MAKES 1 TORTE (8 IN/20 CM), 10 SERVINGS

INGREDIENT	U.S.	METRIC
Vanilla Sponge (page 288), 8-in/20-cm round	1	1
Vanilla Simple Syrup (page 1079)	5 oz	140 g
Chocolate Roulade (page 297), 11½ by 16½-in/29 by 42-cm sheet	1	1
Heavy cream	1 lb 8 oz	680 g
Confectioners' sugar, sifted	¾ oz	20 g
Rum	3 oz	90 g
Dark chocolate round cutouts (see page 985), 1½ in/4 cm in diameter	10	10
Dark chocolate, melted, tempered (see page 904)	2 oz	60 g
Chocolate cake crumbs	3 oz	90 g

1. Place an 8-in/20-cm cardboard cake round on a sheet pan and place an 8-in/20-cm cake ring on top. Slice the vanilla sponge into two even layers between ¼ and ½ in/0.6 cm and 1 cm thick, place one layer into the cake ring, and moisten with simple syrup.

2. Moisten the chocolate roulade sheet with the simple syrup. Combine 12 oz/340 g of the heavy cream with the confectioners' sugar and 2 oz/60 g of the rum and whip to medium peaks. Spread evenly over the moistened roulade and cut into strips 1½ in/4 cm wide.

3. Roll one of the strips into a spiral with the cream side in. Join the end of another strip to the end of the spiral and roll to continue the spiral. Repeat this process with the remaining strips to create a spiral approximately 8 in/20 cm in diameter. Carefully place the spiral into the cake ring. Moisten the remaining layer of the vanilla sponge with simple syrup and place on top of the spiral. Wrap the cake in the ring in plastic wrap and refrigerate for about 2 hours, or until the whipped cream layers have set.

4. Remove the plastic wrap and gently lift away the cake ring. Combine the remaining 12 oz/340 g heavy cream with the remaining 1 oz/30 g rum and whip to medium peaks. Finish the top and sides of the torte with the whipped cream, reserving 4 oz/110 g for décor.

5. Mark the torte into 10 portions. Using a pastry bag fitted with a #5 plain tip, pipe a small dome of the reserved whipped cream onto each portion. Place a chocolate cutout on each dome.

6. Mark the center of the torte with a 4-in/10-cm round cutter. Using a parchment cone, pipe a corneli design with the tempered chocolate into the marked circle. Garnish the bottom quarter edge of the side of the torte by gently pressing the chocolate cake crumbs to adhere.

ZUGER KIRSCH TORTE

MAKES 1 TORTE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
Japonais Meringue (page 1073), 8-in/20-cm round, baked	2	2
Vanilla Sponge (page 288), 8-in/20-cm round	1	1
Kirsch Buttercream (page 480)	14 oz	400 g
Kirsch-flavored simple syrup (see "Liqueur-Flavored Simple Syrup," page 1079)	3 oz	90 g
Sliced almonds, toasted	2 oz	60 g
Confectioners' sugar	1 oz	30 g
Candied cherries	10	10

1. Using a serrated knife, cut one of the japonais layers into 10 even wedges. Cut one layer from the sponge (between ¼ and ½ in/0.6 cm and 1 cm thick).

2. Place the remaining japonais layer on an 8-in/20-cm cake round and apply a thin layer of buttercream. Thoroughly moisten the sponge layer with simple syrup and place on top of the japonais layer. Apply a thin layer of buttercream. Arrange the cut japonais wedges on top, carefully fitting them together.

3. Coat the sides of the torte with the remaining buttercream. Press the toasted almonds onto the buttercream.

4. Dust the top of the torte heavily with the confectioners' sugar, then mark with a lattice pattern, using the back of a knife. Mark the portions with a candied cherry at the outer edge of each one.

PITHIVIER

MAKES 1 CAKE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
Butter, soft	8 oz	230 g
Sugar	8 oz	230 g
Ground almonds	3¼ oz	90 g
Vanilla extract	1 tsp	5 mL
Eggs	4 oz	110 g
Butter Puff Pastry Dough (page 244)	1 lb	450 g
Egg Wash (page 1064)	2 oz	60 g
Light corn syrup	1 oz	30 g

1. To prepare the filling, cream the butter and sugar with the paddle attachment on medium speed until light and fluffy, about 5 minutes.

2. Mix in the almonds and vanilla extract. Add the eggs one at a time, mixing after each addition until fully incorporated and scraping down the bowl as necessary.

3. Roll the puff pastry to a thickness of ⅛ in/0.3 cm. Chill until firm. Cut out two 8-in/20-cm circles from the pastry.

4. Place one of the circles on a parchment-lined sheet pan and spread or pipe the filling in the center of the circle, leaving a 1½-in/4-cm border all around. Brush the border lightly with egg wash. Place the remaining puff pastry circle on top, carefully lining up the edges of the 2 circles. Gently press the edges together. Cover with plastic wrap and chill for 20 minutes.

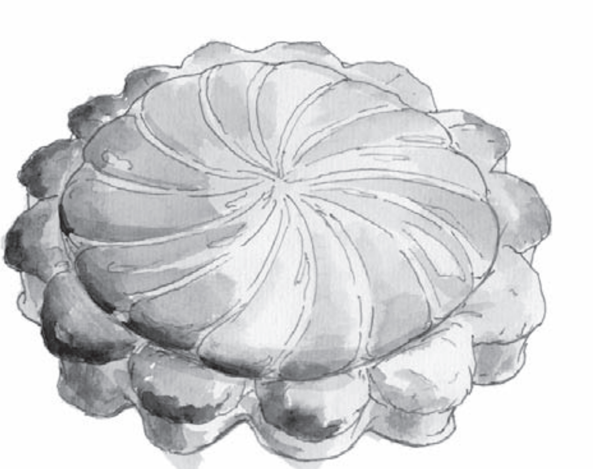
5. Using the back of a paring knife, scallop the edges of the pastry. Brush the pastry with egg wash and cut a spiral sunburst pattern in the top, working from the center out and being careful not to cut through to the filling.

6. Bake at 375°F/191°C until golden brown, 35 to 40 minutes. Brush the top of the pithivier with the corn syrup. Turn the oven up to 425°F/218°C and bake until the corn syrup has become a golden glaze, about 3 minutes longer.

7. Allow the pithivier to cool slightly before serving.

VARIATION

KING'S CAKE *Use 1 lb 8 oz/680 g Butter Puff Pastry Dough (page 244), and 12 oz/340 g Frangipane for Filling (page 1068). Score the top with a crosshatch pattern. Omit the corn syrup, and after the cake has baked for 35 to 40 minutes, dust the top with confectioner's sugar. Finish baking in a 500°F/260°C oven until the sugar has become a golden glaze, 2 to 3 minutes more.*



A pithivier is marked before baking.

King's Cake

GÂTEAU ST. HONORÉ

MAKES 1 CAKE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
Butter Puff Pastry Dough (page 244)	4 oz	110 g
Pâte à Choux (page 240)	7½ oz	210 g
Kirsch-flavored pastry cream (see "Liqueur-Flavored Pastry Cream," page 417)	8 oz	230 g
Sugar	12 oz	340 g
Kirsch Diplomat Cream (page 452)	1 lb	450 g

1. Roll the puff pastry into an 8-in/20-cm circle, dock it, and place it on a parchment-lined sheet pan. Using a pastry bag fitted with a #8 plain tip, pipe a border of pâte à choux onto the puff pastry circle and a smaller ring in the center. Pipe approximately 12 small round cream puffs on a separate parchment-lined sheet pan.

2. Bake the puff pastry round and cream puffs at 375°F/191°C until golden brown, about 30 minutes. Cool.

3. Fill each of the cream puffs with some of the pastry cream.

4. To prepare the caramel, add a small amount of the sugar to a medium-hot pan set over medium heat and allow it to melt, then add the remaining sugar in small increments, allowing each addition to fully melt before adding the next. Continue this process until all the sugar has been added to the pan, and cook to the desired color. Dip the top of each cream puff into the caramel and place them caramel side down on a sheet pan that has been greased lightly. Once cool, dip the bottom of each puff into the caramel and stick it to the outside edge of the shell, spacing them evenly.

5. Fill the center of the gâteau with diplomat cream; it should come to within ½ in/1 cm of the tops of the cream puffs. Using a pastry bag fitted with a V-cut round tip or a large rose petal tip, pipe the diplomat cream in a herringbone pattern on top of the gâteau.

ALMOND CAKE

MAKES 1 CAKE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	8 oz	230 g
Italian Buttercream (page 480)	1 lb 10 oz	740 g
Dark chocolate, melted	2 oz	60 g
Almond extract	½ tsp	2.5 mL
Brandy	2 oz	60 g
Vanilla Sponge (page 288), 8-in/20-cm round	4 oz	110 g
Raspberry jam	1 oz	30 g
Vanilla Simple Syrup (page 1079)	4 oz	110 g
Marzipan for Modeling and Cake Covering (page 1020)	2 oz	60 g
Chocolate Cigarettes (see page 987)	1	1

1. Roll out the dough ⅛ in/0.3 cm thick and cut an 8-in/20-cm round. Transfer to a parchment-lined sheet pan. Chill at least 30 minutes.

2. Bake at 350°F/177°C until golden brown, 10 to 12 minutes. Cool completely.

3. Flavor 6 oz/170 g of the buttercream with the melted chocolate. Flavor the remaining buttercream with the almond extract and brandy. Reserve 6 oz/170 g of the brandy-flavored buttercream for décor.

4. Slice three even layers from the vanilla sponge, between ¼ and ½ in/0.6 cm and 1 cm thick.

5. Place the cookie round on a cardboard cake round and apply a thin coating of raspberry jam to the cookie. Top with a sponge layer and moisten with simple syrup. Coat with the chocolate buttercream. Top with the second sponge layer, moisten with simple syrup, and coat with the brandy buttercream. Top with the third layer of sponge and moisten with simple syrup.

6. Finish the top and sides of the cake with the brandy buttercream.

7. Dust a work surface with confectioners' sugar and roll the marzipan to a thickness of ¹⁄₁₆ in/0.15 cm. With a 1-in/3-cm cutter, cut out 9 circles. Cut the circles in half. Press them against the base of the cake with the flat side down.

8. Using the reserved brandy buttercream and a pastry bag fitted with a #3 plain tip, pipe a line of shells across the top of the cake, dividing the cake in half. Lay the chocolate cigarette at a 45-degree angle across the piped shell border.

COFFEE CHANTILLY TORTE

MAKES 1 TORTE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	8 oz	230 g
Chiffon Sponge (page 311), 8-in/20-cm round	1	1
Soft Ganache (page 483), whipped	6 oz	170 g
Kahlúa-flavored simple syrup (see "Liqueur-Flavored Simple Syrup," page 1079)	4 oz	110 g
Coffee Chantilly Cream (page 482)	6 oz	170 g
Chantilly Cream (page 482)	12 oz	340 g
Almonds, toasted and ground	4 oz	110 g
Striped Chocolate Triangles (see page 987)	5	5
Dark chocolate, melted, tempered (see page 904)	2 oz	60 g

1. Roll out the dough ⅛ in/0.3 cm thick and cut an 8-in/20-cm round. Transfer to a parchment-lined sheet pan. Chill at least 30 minutes.

2. Bake at 350°F/177°C until golden brown, 10 to 12 minutes. Cool completely.

3. Slice two ¼-in/0.6-cm layers from the chiffon sponge.

4. Place the cookie round on an 8-in/20-cm cardboard cake round and coat with the whipped ganache. Top with a layer of chiffon sponge and moisten with simple syrup. Coat with the coffee Chantilly cream. Top with the second layer of chiffon sponge and moisten with simple syrup.

5. Finish the top and sides of the torte with the plain Chantilly cream, reserving 4 oz/110 g for décor. Press the ground almonds onto the base of the torte.

6. Using the reserved Chantilly cream and a pastry bag fitted with a #4 star tip, cover one-third of the top of the torte with rosettes. Place the chocolate triangles in the center of the torte. Using a parchment cone, pipe a continuous swirl of the tempered chocolate around the triangles.

CHESTNUT CAKE

MAKES 1 PAISLEY CAKE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
Chiffon Sponge (page 311), 8-in/20-cm round	1	1
Rum-flavored simple syrup (see "Liquor-Flavored Simple Syrup," page 1079)	5 oz	140 g
Chestnut purée	10 oz	280 g
Italian Meringue (page 476)	8 oz	230 g
Butter, soft	10 oz	280 g
Rum	2 oz	60 g
Hard Ganache (page 484)	6 oz	170 g
Candied chestnuts, for décor	3	3

1. Line the bottom of an 8-in/20-cm paisley mold (or an 8-in/20-cm ring mold) with a cardboard cake round, cutting it to fit. Line the sides of the paisley mold with a strip of acetate or plastic wrap, cutting it to fit.

2. Cut the cake into a paisley shape that just fits inside the mold. Slice three even layers from the chiffon sponge, between ¼ and ½ in/0.6 cm and 1 cm thick. Moisten each layer with simple syrup.

3. Blend the chestnut purée into the Italian meringue. Add the butter and rum and blend until well combined.

4. Place one sponge layer in the mold and coat with a thin layer of the chestnut buttercream. Top with a second sponge layer and coat with a thin layer of buttercream. Top with the final sponge layer. Cover with plastic wrap and refrigerate until the buttercream is set.

5. Remove the cake from the mold and remove the acetate.

6. Glaze the cake with the ganache. Place the candied chestnuts in the center of the cake.

CHOCOLATE MARQUISE TORTE

MAKES 1 HEXAGONAL TORTE (6 BY 10¼ IN/15 BY 26 CM)

INGREDIENT	U.S.	METRIC
Italian Buttercream (page 480)	10 oz	280 g
Gianduja (page 958)	8 oz	230 g
Japonais Meringue (page 1073), 6 by 10¼-in/15 by 26-cm, baked	1	1
Raspberry jam	2 oz	60 g
Chocolate Chiffon Sponge (page 313), 6 by 10¼-in/15 by 26-cm hexagon	3	3
Cointreau-flavored simple syrup (see "Liqueur-Flavored Simple Syrup," page 1079)	7 oz	200 g
Soft Ganache (page 483), whipped	5 oz	140 g
Marzipan for Modeling and Cake Covering (page 1020)	12 oz	340 g
Milk chocolate Hard Ganache (page 484)	12 oz	340 g
White chocolate triangles (see page 986), 2½ by 2-in/6 by 6 by 5-cm	7	7

1. Blend together the buttercream and gianduja.

2. Line the bottom of a hexagonal bottomless mold (6 by 10¼ in/15 by 26 cm) with cardboard, cutting it to fit. Trim the japonais layer to fit inside the mold. Spread a thin coating of raspberry jam on the japonais and place it in the bottom of the mold.

3. Slice three even layers from the chiffon sponge, between ¼ and ½ in/0.6 cm and 1 cm thick. Top the japonais with a layer of chiffon sponge and moisten with simple syrup. Coat with 5 oz/140 g of the gianduja buttercream. Top with a second layer of chiffon sponge, moisten with simple syrup, and coat with the soft ganache. Top with the last layer of chiffon sponge and moisten with simple syrup.

4. Coat the top of the torte with a thin layer of buttercream. Cover with plastic wrap and refrigerate until the buttercream is set.

5. Remove the plastic wrap. Warm the side of the cake ring using a propane torch or a towel moistened with warm water and carefully remove the ring. Coat the sides of the cake with the remaining buttercream, reserving 4 oz/110 g for décor.

6. Dust a work surface with confectioners' sugar and roll the marzipan to a rectangle ¹⁄₁₆ in/0.15 cm thick and large enough to cover the entire cake. Cover the torte with the marzipan. Smooth the top and sides and cut away the excess at the corners to create close, neat creases. Glaze the torte with the milk chocolate hard ganache. Refrigerate until firm.

7. Using a pastry bag fitted with a #4 plain tip, pipe a scrolled line of buttercream diagonally across the center of the torte. Place the white chocolate triangles in a line parallel to the left of the scrolled line, arranging them so that each triangle slightly overlaps the previous one.

CHOCOLATE DACQUOISE TORTE

MAKES 1 TORTE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
Dacquoise (page 322), 8-in/20-cm rounds, baked	3	3
Soft Ganache (page 483), whipped	1 lb 8 oz	740 g
Dark chocolate rectangular cutouts (see page 985), 1½ by 3 in/4 by 8 cm	25	25
Hazelnuts, blanched and toasted	4 oz	110 g

1. Trim each dacquoise layer to a perfect 8-in/20-cm round.

2. Smear a dollop of the ganache in the center of an 8-in/20-cm cardboard cake round and place one of the dacquoise rounds on top. Coat the dacquoise with 6 oz/170 g of the ganache. Top with a second dacquoise round and coat it with 6 oz/170 g of the ganache. Top with the remaining dacquoise round.

3. Coat the top and sides of the torte with 5 oz/140 g of the ganache and refrigerate for about 1 hour to set firm.

4. Finish the top and sides of the torte with the remaining ganache, reserving 4 oz/113 g for décor.

5. Reserve 3 chocolate rectangles. Press the remaining rectangles onto the side of the torte, slightly overlapping them and completely covering the side of the torte.

6. Using a pastry bag fitted with a #3 plain tip, pipe small domes of ganache around the top edge of the torte. At intervals of 2 in/5 cm to mark the portions, place a hazelnut on each dome. Place a cluster of the remaining hazelnuts slightly off center on the top of the torte. Break up the reserved chocolate rectangles and place next to the cluster of hazelnuts.

CHOCOLATE MOUSSE TORTE

MAKES 1 OVAL TORTE (5½ BY 11 IN/14 BY 28 CM)

INGREDIENT	U.S.	METRIC
Ladyfinger (page 378), 1½ by 24-in/4 by 61-cm strip, alternating vanilla and chocolate	1	1
Chocolate Sponge (page 288), 16½ by 24½-in/42 by 62-cm sheet	1	1
Citrus-Flavored Simple Syrup (page 1079)	5 oz	140 g
White Chocolate Mousse (page 430)	9 oz	260 g
Dark Chocolate Mousse (page 431)	9 oz	260 g
Hard Ganache (page 484)	5 oz	140 g
White chocolate ruffles (see page 990)	2	2
Dark chocolate ruffles (see page 990)	2	2

1. Line the bottom of an oval cake ring mold with cardboard, cutting it to fit. Line the sides of the mold with acetate. Line the inside of the mold with the ladyfinger strip with the flat side facing in.

2. Cut 2 ovals (5½ by 11 in/14 by 28 cm each) from the chocolate sponge. Place one in the mold and moisten with simple syrup. Spread the white chocolate mousse evenly over the layer. Top with the second layer of sponge, moisten, and spread evenly with the dark chocolate mousse.

3. Cover with plastic wrap and refrigerate until firm, at least 2 hours.

4. Glaze the top of the torte with a thin coating of ganache. Place the torte in the freezer for 30 minutes.

5. Warm the sides of the cake mold using a propane torch or a towel moistened with warm water and carefully remove the mold.

6. Garnish the top of the torte with the chocolate ruffles.

CHOCOLATE RUFFLE CAKE

MAKES 1 CAKE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
High-Ratio Chocolate Cake (page 284), 8-in/20-cm round	1	1
Vanilla Simple Syrup (page 1079)	5 oz	140 g
Soft Ganache, whipped (page 483)	1 lb	450 g
Dark chocolate, melted, tempered (page 904; also see Chef's Note)	1 lb 4 oz	570 g
Confectioners' sugar (optional)	3 oz	90 g

1. Slice three even layers from the cake, between ¼ and ½ in/0.6 cm and 1 cm thick. Place one of the cake layers on an 8-in/20-cm cardboard cake round. Moisten with simple syrup and coat with 4 oz/110 g of the ganache. Top with another layer of cake, moisten with simple syrup, and coat with 4 oz/110 g of the ganache. Top with the final layer of cake and moisten with simple syrup.

2. Coat the top and sides of the cake with 4 oz/110 g of the ganache.

3. Fill a pastry bag fitted with a medium plain tip with the remaining ganache. Pipe a border of nickel-size domes around the outer edge of the cake.

4. Warm two perfectly flat sheet pans in the oven until just warm to the touch (approximately 100°F/38°C). Ladle 10 oz/280 g of the melted chocolate onto the back of each sheet pan and spread evenly with an offset spatula.

5. Refrigerate the sheet pans for 15 minutes, then transfer to the freezer for 15 minutes.

6. Remove the pans from the freezer and let stand at room temperature until the chocolate becomes pliable, about 5 minutes.

7. Spread some of the remaining chocolate on a piece of parchment approximately 3 in/8 cm wide and 26 in/65 cm long. Let it set lightly. Wrap around the cake.

8. With the same spatula, remove the chocolate from the pans, holding the tip of the spatula steady and rotating the handle end to create ruffles. Arrange the chocolate ruffles on the top of the cake in concentric circles, starting from the edge and working in, overlapping the circles to completely cover the top of the cake. Sprinkle lightly with confectioners' sugar, if desired.

CHEF'S NOTE

For this décor it is best to use a chocolate with a low cocoa butter content.

PEANUT BUTTER BARS

YIELD: 1 FULL SHEET

INGREDIENT	U.S.	METRIC
Milk chocolate pâte à glacer, melted	6 oz	170 g
Chocolate Chiffon (page 314), full sheet	1	1
Peanut Crispy Base (page 388)	1 lb 10 oz	740 g
Peanut Butter Ganache (page 487)	1 lb 3 oz	540 g
Milk Chocolate Mousse I (page 432)	3 lb 1 oz	1.39 kg
Stabilized Whipped Cream (page 438)	3 lb 5 oz	1.5 kg
Ultrashiny Chocolate Glaze (page 490)	10 oz	280 g

1. Line a very flat sheet pan with parchment paper, and add a full-size sheet pan extender 1 in/3 cm high, lightly greased.

2. Pour the pâte à glacer on the chiffon and spread thinly, removing excess if necessary. Allow to set completely.

3. Place the chiffon in the sheet pan pâte à glacer side down, and thinly spread the peanut crispy base on top of the chiffon. Cool in the refrigerator until set.

4. Spread the peanut butter ganache evenly on top of the cooled crispy base. Place in the refrigerator to set.

5. Pour the milk chocolate mousse over the ganache and spread evenly. Place in the refrigerator to set.

6. Spread the whipped cream mousse evenly on top of the chilled mousse, using a straight edge to smooth the top. Place in the freezer to set overnight.

7. Once set, release the extender using a blowtorch and select a portion of the slab to glaze.

8. Warm the glaze to 105°F/41°C. Place the frozen slab onto a wire rack with the whipped cream mousse facing up over a sheet pan and pour a thin layer of glaze over the top of the bar. Cut to the desired size and decorate as desired. Reserve in the refrigerator and serve cold.

GÂTEAU PRALINÉ

MAKES 1 CAKE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	8 oz	230 g
Hazelnut Sponge Cake (page 300), 8-in/20-cm round	1	1
Praline paste	2 oz	60 g
French Buttercream (page 481)	1 lb 12 oz	790 g
Nougatine, crushed	2 oz	60 g
Frangelico-flavored simple syrup (see "Liqueur-Flavored Simple Syrups," page 1079)	6 oz	170 g
Dark chocolate rectangular cutouts (see page 985), 1½ by 3 in/4 by 8 cm	25	25
Hazelnut Dragées (page 935)	8 oz	230 g

1. Roll out the dough ⅛ in/0.3 cm thick and cut an 8-in/20-cm round. Transfer to a parchment-lined sheet pan. Chill at least 30 minutes.

2. Bake at 350°F/177°C until golden brown, 10 to 12 minutes. Cool completely.

3. Slice three even layers from the sponge, between ¼ and ½ in/0.6 cm and 1 cm thick.

4. Blend the praline paste into the buttercream. Add the crushed nougatine to 10 oz/280 g of the praline buttercream and blend well. Reserve 6 oz/170 g of the buttercream for décor.

5. Place the cookie round on an 8-in/20-cm cardboard cake round and coat with 2 oz/60 g of the praline buttercream. Top with a layer of sponge, moisten with simple syrup, and coat with 6 oz/170 g of the nougatine buttercream. Top with a second layer of sponge, moisten with simple syrup, and coat with the remaining nougatine buttercream. Top with the remaining sponge layer.

6. Finish the top and sides of the cake with the remaining praline buttercream. Press the chocolate rectangles onto the sides of the cake, overlapping them slightly and completely covering the sides of the cake.

7. Using a pastry bag fitted with a #3 star tip, pipe a shell border with the reserved buttercream around the top edge of the cake. Place the hazelnuts dragées on the border, spacing them evenly.

GÂTEAU CHARLEMAGNE

MAKES 1 CAKE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
Japonais Meringue (page 1073), 8-in/20- cm round, baked	2	2
Chocolate Chiffon Sponge (page 313), 8-in/20-cm round	1	1
Hazelnut liqueur	2 oz	60 g
Honey	1 oz	30 g
Diplomat Cream (page 452)	10 oz	280 g
Frangelico-flavored simple syrup (see "Liqueur-Flavored Simple Syrup," page 1079)	3 oz	90 g
Chantilly Cream (page 482)	8 oz	230 g
White chocolate round cutouts (see page 985), 3 in/8 cm	6	6
Cocoa powder, for dusting	As needed	As needed

1. Trim each japonais layer to a perfect 8-in/20-cm round. Slice one layer from the chiffon sponge, between ¼ and ½ in/0.6 cm and 1 cm thick.

2. Blend the hazelnut liqueur and honey into the diplomat cream.

3. Smear a dollop of the diplomat cream onto the center of an 8-in/20-cm cardboard cake round and place one of the japonais rounds on top. Coat with 5 oz/140 g of the diplomat cream. Top with the layer of chiffon sponge, moisten it with simple syrup, and coat with the remaining diplomat cream. Top with the remaining japonais round.

4. Coat the top and sides of the cake with the Chantilly cream.

5. Reserve 3 of the white chocolate rounds. Press the remaining chocolate rounds onto the sides of the cake, overlapping them slightly and covering the sides of the cake at evenly measured intervals.

6. Dust the top of the cake with cocoa powder, covering it completely.

7. Heat a small sharp knife and cut each of the reserved white chocolate circles in half. Place them around the top edge of the cake so they just touch one another, with the rounded side facing in.

ORANGE MOUSSELINE TORTE

MAKES 1 TORTE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	8 oz	230 g
Orange Chiffon Sponge (page 311), 8-in/20-cm round	1	1
Heavy cream, whipped to soft peaks	4 oz	110 g
Orange Curd (page 425)	8 oz	230 g
Orange marmalade	2 oz	60 g
Grand Marnier–flavored simple syrup (see "Liqueur-Flavored Simple Syrup," page 1079)	6 oz	170 g
Swiss Meringue (page 476)	1 lb	450 g

1. Roll out the dough ⅛ in/0.3 cm thick and cut an 8-in/20-cm round. Transfer to a parchment-lined sheet pan. Chill at least 30 minutes.

2. Bake at 350°F/177°C until golden brown, 10 to 12 minutes. Cool completely.

3. Cut the chiffon sponge into three layers between ¼ and ½ in/0.6 cm and 1 cm thick.

4. Fold one-third of the whipped cream into the orange curd to lighten it, then fold in the remaining whipped cream.

5. Place an 8-in/20-cm cardboard cake round on a sheet pan and place an 8-in/20-cm cake ring on top. Line the sides of the cake ring with an acetate strip or plastic wrap. Apply a thin coating of marmalade to the cookie round and place it in the cake ring. Top with a layer of chiffon sponge, moisten with simple syrup, and coat with 6 oz/170 g of the orange curd whipped cream. Top with a second layer of chiffon sponge, moisten with simple syrup, and coat with the remaining 6 oz/170 g orange curd whipped cream. Top with the final layer of chiffon sponge and moisten with simple syrup.

5. Coat the top and sides of the torte with meringue. Using a pastry bag fitted with a #5 star tip, pipe side-by-side columns of meringue all around the sides of the torte. Pipe swirls of meringue all over the top of the torte, then pipe a shell border around the base of the torte.

6. Using a propane torch, brown the meringue on the sides and top of the torte.

PARISIAN GÂTEAU

MAKES 1 CAKE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
Swiss Meringue (page 476)	1 lb	450 g
Soft Ganache (page 483)	1 lb 4 oz	570 g
Dark chocolate, melted	2 oz	60 g
Coffee extract	1 tbsp	15 mL
Kahlúa	1 oz	30 g
Chocolate Shavings (see page 989)	4 oz	110 g
Confectioners' sugar	1 oz	30 g

1. Trace three 8-in/20-cm circles on a sheet of parchment paper and line a sheet pan with the parchment.

2. Using a pastry bag fitted with a #4 plain tip, pipe a spiral of meringue into each traced circle, starting in the middle and working outward to fill it completely.

3. Bake at 225°F/107°C until dry, about 40 minutes. Cool completely.

4. Combine the ganache, melted chocolate, coffee extract, and Kahlúa and blend well. Whip to firm peaks.

5. Place a meringue round on an 8-in/20-cm cake round and coat with 5 oz/140 g of the ganache. Top with a second layer of meringue and coat it with 5 oz/140 g of ganache. Top with the last layer of meringue, with the smooth side facing out.

6. Coat the top and sides of the gâteau with the remaining ganache. Press the chocolate shavings onto the top and sides of the gâteau to cover it completely. Dust the top lightly with the confectioners' sugar.

ORANGE TORTE

MAKES 1 TORTE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
Orange Chiffon Sponge (page 311), 8-in/20-cm round	1	1
Ladyfingers (page 378), 2 by 26-in/5 by 65-cm, striped vanilla and chocolate	1 strip	1 strip
Citrus-Flavored Simple Syrup (page 1079)	3 oz	90 g
Orange marmalade	1 oz	30 g
Orange Diplomat Cream (page 452)	1 lb 10 oz	740 g
Mirror Glaze (page 491)	3 oz	90 g
Candied Orange Peel (page 938), julienne	3 oz	90 g

1. Place an 8-in/20-cm cardboard cake round on a sheet pan and place an 8-in/20-cm cake ring on it. Line the ring with plastic wrap.

2. Slice two layers from the chiffon sponge, between ¼ and ½ in/0.6 cm and 1 cm thick.

3. Line the inside of the cake ring with the ladyfingers strip so the smooth side faces in. Place one layer of the chiffon sponge in the bottom of the ring and moisten with simple syrup. Coat with a thin layer of orange marmalade. Ladle 13 oz/370 g of the diplomat cream on top of the chiffon sponge layer and spread it in an even layer. Top with a second layer of chiffon sponge and press down gently. Moisten the chiffon sponge layer with simple syrup, coat with a thin layer of orange marmalade, and ladle on and spread the remaining 13 oz/370 g diplomat cream.

4. Wrap tightly in plastic wrap and refrigerate overnight. (The torte can be frozen for up to 1 month.)

5. Glaze the top of the torte with the mirror glaze. Refrigerate until the glaze has fully set, about 20 minutes.

6. Warm the sides of the cake ring using a propane torch or a towel moistened with warm water and carefully remove the ring.

7. Garnish the top of the torte with the orange peel.

PASSION FRUIT TORTE

MAKES 1 TORTE (8 IN/20 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	8 oz	230 g
Chiffon Sponge (page 311), 8-in/20-cm round	1	1
Patterned Joconde strip (page 308), 2 by 24-in/5 by 61-cm	1	1
Raspberry jam	2 oz	60 g
Simple Syrup (page 1079)	3 oz	90 g
Passion Fruit Chibouste (page 456)	14 oz	400 g
Passion fruit Mirror Glaze (see Variation, page 494)	3 oz	90 g
Passion fruit	½	½
Kiwi, peeled and cut crosswise into slices, ¼ in/0.6 cm thick	1	1
Mango, peeled, pitted, and thinly sliced	1	1
Dark chocolate fans (see page 989), ⅓ by 6 in/1 by 15 cm	1	1

1. Roll out the dough ⅛ in/0.3 cm thick and cut an 8-in/20-cm round. Transfer to a parchment-lined sheet pan. Chill at least 30 minutes.

2. Bake at 350°F/177°C until golden brown, 10 to 12 minutes. Cool completely.

3. Slice two layers from the chiffon sponge, between ¼ and ½ in/0.6 cm and 1 cm thick.

4. Place an 8-in/20-cm cardboard cake round on a sheet pan and place an 8-in/20-cm cake ring on top. Line the inside of the cake ring with an acetate strip or plastic wrap. Line the inside of the ring with the strip of Joconde. Coat the cookie round with raspberry jam and place in the bottom of the ring. Top with a layer of chiffon sponge and moisten with simple syrup. Ladle 7 oz/200 g of the passion fruit mousse on top of the chiffon sponge and spread it in an even layer. Top with the second layer of chiffon sponge, press down gently, and moisten with simple syrup. Ladle on and spread the remaining 7 oz/200 g passion fruit mousse.

5. Wrap tightly in plastic wrap and refrigerate overnight. (The torte can be frozen for up to 1 month.)

6. Glaze the top of the torte with the mirror glaze.

7. Warm the sides of the cake ring using a propane torch or a towel moistened with warm water and carefully remove the ring.

8. Place the passion fruit half on top of the torte, slightly off center and seed side up. Place 2 kiwi slices next to the passion fruit half and fan the mango slices out from the kiwi slices. Place the chocolate ribbons to form an X over the fruit.

CHEF'S NOTES

Fresh fruit can be added to the filling.

Any fruit purée can be used to change the flavor.

PEANUT BUTTER S'MORES CAKE

MAKES 1 CAKE (6 IN/15 CM)

INGREDIENT	U.S.	METRIC
Marshmallows (page 968), prepared through step 5	8 oz	230 g
Graham cracker crumbs	As needed	As needed
Graham Cracker Crust (page 239)	4 oz	110 g
Milk Chocolate Peanut Butter Gianduja (page 958)	3 oz	90 g
Flourless Sponge (page 304), 5-in/13-cm round, ½ in/1 cm thick	1	1
Vanilla Simple Syrup (page 1079)	3 oz	90 g
Milk Chocolate Bavarian Cream (see page 450)	1 lb	450 g
Milk Chocolate Glaze (see page 489)	1 lb	450 g
Toasted marshmallow	1	1
Chocolate Cigarettes (see page 987)	1	1

1. Pipe the marshmallows in a 5½-in/14-cm circle on oiled parchment. Sprinkle with graham cracker crumbs and freeze for 20 minutes, or until completely set.

2. Press the graham cracker crust into the bottom of a 6-in/15-cm cake ring on a parchment-lined sheet pan. Bake in a 325°F/163°C convection oven for 6 minutes. Trim to a 5-in/13-cm round while still hot from the oven. Allow to cool completely before cake assembly.

3. Spread the gianduja on top of the graham cracker crust and top with the flourless sponge, pressing gently to adhere. Soak the sponge with the simple syrup. Reserve.

4. Place a 6-in/15-cm cake ring mold on a sheet pan lined with acetate.

5. Portion 8 oz/230 g of the Bavarian cream into the cake ring and spread into an even layer.

6. Lightly press the marshmallow round, crumbs down, into the Bavarian so it comes up the sides of the marshmallow round.

7. Portion the remaining Bavarian into the ring, making sure it is level. Invert the graham cracker–gianduja–flourless sponge sandwich onto the Bavarian with the graham cracker crust facing up; press gently into place. Freeze the cake 6 hours, or overnight, until completely set.

8. Warm the sides of the cake ring using a propane torch or a towel moistened with warm water and carefully remove the ring. Glaze with the milk chocolate glaze and refrigerate until set. Garnish with a toasted marshmallow on a chocolate stick.

CHESTNUT ENTREMET

MAKES SIX 8 IN/20 CM BUCHE MOLDS

INGREDIENT	U.S.	METRIC
Tangerine Panna Cotta (page 424)	2 lb 10 oz	1.19 kg
Milk Chocolate Chiffon (page 315), 9½ by 13-in/24 by 33-cm sheet	1 lb 8 oz	680 g
Chestnut Mont Blanc Filling (page 448), divided	3 lb 7 oz	1.56 kg
Dark chocolate pâte à glacer	As needed	As needed
Chestnut Biscuit (page 352)	14 oz	400 g
Milk Chocolate Mousse II (page 433)	6 lb	2.72 kg
Ultrashiny Chocolate Glaze (page 490)	1 lb 10 oz	740 g
Marzipan Chestnuts (page 1021)	As needed	As needed
White and Dark Chocolate Décor (page 1016)	As needed	As needed
Grissini (page 128)	As needed	As needed

1. Pour the tangerine panna cotta into a quarter sheet pan lined with acetate. Refrigerate for a few minutes, until the panna cotta is partially set.

2. Place the milk chocolate chiffon on top of the panna cotta and blast freeze.

3. Once fully frozen, pipe 2 lb 9 oz/1.16 kg of the chestnut Mont Blanc filling onto the milk chocolate chiffon. Blast freeze.

4. Meanwhile, spread the pâte à glacer onto one side of the chestnut biscuit. Let set in the refrigerator.

5. Once set, cut the coated biscuit into 1¾ by 7¾-in/4 by 20-cm strips; set aside.

6. Remove the panna cotta insert from the freezer and cut into 1½ by 7¾-in/4 by 20-cm strips. Once thawed, place on the chestnut biscuit and blast freeze.

7. Line the six buche molds with acetate.

8. Divide the mousse among the molds and center one frozen insert in each mold with the pate à glacer up. Level and freeze.

9. Once frozen, unmold the buches and glaze with the chocolate glaze.

10. Pipe the remaining chestnut Mont Blanc filling on top of the entremets.

11. Decorate as desired with the marzipan chestnuts, chocolate décor, and grissini.

GREEN TEA ENTREMET

MAKES SIX 8-IN/20-CM SQUARE ENTREMETS

INGREDIENT	U.S.	METRIC
Green Tea Chiffon (page 316)	1 full sheet	1 full sheet
Pâte à glacer, white	As needed	As needed
Red Bean Jam (page 548)	1 lb 12 oz	800 g
Red Bean Paste (page 547)	1 lb 10 oz	740 g
Green Tea Mousse (page 446)	3 lb 15½ oz	1.80 kg
White chocolate spray (see page 544)	As needed	As needed
White Chocolate Plaques (see page 1017)	As needed	As needed
Corn syrup	As needed	As needed
White Sauce (page 496)	As needed	As needed
Green Tea Glaze (page 496)	As needed	As needed
Red Bean Paste Décor (page 548)	As needed	As needed
Green Tea Clusters (page 387)	As needed	As needed

1. Cut the green tea chiffon in half to create two half sheet–size cakes. Spread the pâte à glacer on one side of one of the chiffon sheets. Reserve the other half.

2. Once the pâte à glacer has set, flip the chiffon and place on a half sheet tray. Spread the red bean jam evenly across the chiffon and freeze.

3. Once frozen, spread the red bean paste evenly on the red bean jam. Top the layer of paste with the other half of green tea chiffon and press down evenly. Immediately place in the freezer.

4. Once frozen, unmold and cut into even 6-in/15-cm squares. Leave the inserts in the freezer until the mousse is ready.

5. Assemble the entremets upside down with the metal molds on acetate on a flat surface.

6. Divide the mousse among the molds, center the inserts with the bean paste down, and press down until the mousse is flush with the top of the mold. Level off the mousse using an offset spatula and freeze.

7. Unmold the entremets and flip upside down; spray with the white chocolate spray. Apply white chocolate plaques with corn syrup. Place drops of white glaze and green tea glaze as desired on the top. Pipe red bean paste décor however desired.

8. Decorate the entremets with green tea clusters and white chocolate spirals.

STICKY RICE ENTREMET

MAKES SIX 8-IN/20-CM CAKES

INGREDIENT	U.S.	METRIC
Chiffon (page 312), 8-in/20-cm cakes	6	6
Pâte à glacer, white	As needed	As needed
Agar Mango Gelée (page 414)	2 lb 13 oz	1.28 kg
Joconde for Sticky Rice Entremet (page 310)	1 lb 11½ oz	780 g
Coconut Rice Mousse (page 447)	4 lb 2 oz	1.87 kg
Orange Mirror Glaze (see Variation on page 494)	6 oz	170 g
White Sauce (page 496)	1 lb 13 oz	820 g
White Chocolate Puffed Rice Plaques (page 1017)	As needed	As needed
Coconut Rochers (page 371)	As needed	As needed

1. Slice the chiffon into ⅓-in/1-cm layers. Trim half of the slices with a 6⅜-in/16-cm cutter, and the remainder with a 6-in/15-cm cutter.

2. Spread the pâte à glacer on the larger chiffon disks. Once the pâte à glacer has set, flip the disks over.

3. Place a 6¾-in/16-cm PVC round lined with acetate on top of the larger chiffon. Pour 7½ oz/210 g of gelée per entremet into each mold. Immediately set the 6-in/15-cm chiffon disks on top and freeze.

4. Cut six strips of Joconde to ¾ in by 21½ in/2 by 54 cm. Line the rings with the Joconde.

5. Center the frozen insert into the rings and assemble the mousse.

6. Pour the mousse into molds and level it off. Blast freeze.

7. Pipe orange mirror glaze, as desired, onto the entremets.

8. Level off with white sauce on top of the orange décor. Allow the glaze to set. Unmold entremets.

9. Decorate as desired with white chocolate plaques, agar mango gelées, and coconut rochers.

CARAMEL MACADAMIA NUT TORTE

MAKES 1 TORTE (6 IN/15 CM)

INGREDIENT	U.S.	METRIC
Macadamia Cremeux (page 413)	7 oz	200 g
Japonais Meringue (page 1073)	1 recipe	1 recipe
Chocolate Caramel Ganache (page 488)	1½ oz	40 g
Toasted macadamia nuts, chopped	9½ oz	300 g
Caramel Mousse (page 437)	1 lb	450 g
Chiffon Sponge (page 311), 5-in/13-cm round, ½ in/1 cm thick	1	1
Caramel Simple Syrup (page 1079)	3 oz	90 g
Caramel Glaze (page 492)	1 lb	450 g
Milk chocolate fans (see page 989)	12–14	12–14
Chocolate Mirror Glaze (page 495)	4 oz	110 g
Marbleized Chocolate Plaque (see page 987)	1	1
Striped Chocolate Cigarette (see page 988)	1	1

1. Freeze the macadamia cremeux in a 6-in/15-cm cake pan lined with plastic wrap until solid, 6 hours or overnight. Unmold from the pan and trim to a 5-in/13-cm circle. Keep frozen until needed.

2. Using a pastry bag fitted with a #4 plain pastry tip, pipe the japonais batter into a 5-in/13-cm round onto a parchment-lined sheet pan. Bake at 350°F/177°C until golden brown, 10 to 15 minutes. Cool completely before assembly.

3. Spread the tabled chocolate caramel ganache over the japonais meringue and top with 8 oz/230 g of the toasted macadamia nuts. Keep at room temperature.

4. Reserve 5 oz/140 g of the caramel mousse and portion the rest into a 6-in/15-cm cake ring mold that is lined with acetate and sitting on a sheet tray.

5. Place the macadamia cremeux on top of the mousse and press it gently into place so the mousse comes up the sides of the frozen cremeux.

6. Moisten the chiffon sponge with the caramel simple syrup and place on top of the cremeux in the mold. Pour the reserved mousse on top of the chiffon sponge. Lightly press the japonais layer into the mousse. Wrap the cake tightly in plastic wrap and freeze for 6 hours, or overnight, until set.

7. To finish the cake, warm the caramel glaze to 95°F/35°C and spread on top of the frozen cake while still in the ring. Refrigerate the cake for 15 minutes or until the glaze is completely set.

8. Warm the sides of the cake ring using a propane torch or a towel moistened with warm water. Unmold the cake and place on a 7-in/18-cm gold cake board.

9. Press the milk chocolate fans onto the sides of the torte, slightly overlapping them to completely cover the sides of the torte.

10. Garnish the torte, piping dots of chocolate mirror glaze on top. Arrange the remaining toasted macadamia nuts, the marble chocolate plaque, and the chocolate cigarette on the torte.

MOCHACCINO CAKE

MAKES 1 CAKE (6 IN/15 CM)

INGREDIENT	U.S.	METRIC
Italian Cream (page 455)	7 oz	200 g
Coffee Crispy Base (page 389)	3 oz	90 g
Devil's Food Cake (page 285), 5-in/13-cm round, ½ in/1 cm thick	2	2
Coffee Mousse (page 435)	7 oz	200 g
Dark Coffee Mousse (page 436)	9 oz	260 g
Ultrashiny Chocolate Glaze (page 490)	4 oz	110 g
Coffee Macarons (page 375)	8–10	8–10
Chocolate Cigarettes (see page 989)	4 oz	110 g
Chocolate Shavings (page 989)	4 oz	110 g

1. Freeze the Italian cream in a 6-in/15-cm cake pan that has been lined with plastic wrap. Remove from the pan and trim into a 5-in/13-cm round. Reserve in the freezer.

2. Spread the coffee crispy base on one layer of the devil's food cake, wrap tightly, and freeze until completely set.

3. Place a 6-in/15-cm cake ring on a flat sheet pan lined with plastic wrap.

4. Pour the coffee mousse into a cake ring. Lightly press the frozen Italian cream into the mousse so the mousse comes up the sides of the Italian cream. Place the plain devil's food cake round on top of the Italian cream. Place the cake in the freezer.

5. Portion 7 oz/200 g of the dark coffee mousse into the cake ring mold on top of the devil's food cake. Place the remaining dark coffee mousse in a 2½-in/6-cm ring and freeze for garnish.

6. Place the reserved devil's food cake layer onto the mousse with the crispy side down. Freeze.

7. Unmold the cake by warming the sides slightly with a torch. Glaze the top and sides with ultrashiny chocolate glaze while still frozen.

8. Place on a clean cake board. Garnish the bottom quarter edge of the side of the cake by gently pressing the coffee macaroons to adhere. Spray the frozen mousse rings with chocolate and place in the center of the cake. Place the chocolate shavings on top and garnish with a dollop of whipped cream and chocolate coffee beans.

MILK CHOCOLATE CHAI LATTE CAKE

MAKES 1 CAKE (6 IN/15 CM)

INGREDIENT	U.S.	METRIC
Coffee Crispy Base (page 389)	6 oz	170 g
Flourless Sponge (page 304), 5-in/13-cm round	2	2
Chai Panna Cotta (page 423)	6 oz	170 g
Milk Chocolate Chai Mousse (page 430)	1 lb	450 g
Spraying chocolate (page 544)	As needed	As needed
Ultrashiny Chocolate Glaze (page 490)	4 oz	110 g
Chocolate cigarette decor (see page 987)	1	1
Star anise, for décor	1	1
Marblized Chocolate Plaques (see page 987)	12	12

1. Spread the coffee crispy base on one of the flourless sponge rounds and freeze until fully set, about 20 minutes.

2. Freeze the chai panna cotta in a 6-in/15-cm cake pan lined with plastic wrap. Remove from the pan and trim into a 5-in/13-cm round. Reserve in the freezer.

3. Place a 6-in/15-cm cake ring on a sheet pan lined with plastic wrap. Portion 8 oz/230 g of the milk chocolate chai mousse into the cake ring. Lightly press the plain flourless sponge into the mousse so it comes up the sides of the sponge.

4. Place the frozen panna cotta on top of the sponge and pour 6 oz/170 g of the remaining mousse on top; reserve 2 oz/60 g of the mousse for garnish.

5. Place the sponge with the coffee crispy base on the mousse with the sponge facing up, pressing gently into place. Freeze the cake for 6 hours or until completely set.

6. Warm the sides of the cake ring using a propane torch or a towel moistened with warm water and carefully remove the ring.

7. Place the reserved mousse in a pastry bag fitted with a #2 tip. Pipe a random pattern on the top left side of the cake. Freeze until firm.

8. Spray the entire cake with spraying chocolate and flood in the outlined pattern with shiny glaze.

9. Garnish the top with a chocolate cinnamon stick and star anise.

10. Place marbled plaques around the side of the cake, pressing gently to adhere.

CARROT CAKE

MAKES 1 CAKE (6 IN/15 CM)

INGREDIENT	U.S.	METRIC
Poached Pear Gelée (see page 967)	4 oz	110 g
Bavarian Cheese Mousse (page 442)	1 lb	450 g
Carrot Cake (page 294), 5-in/13-cm round, ½ in/1 cm thick	2	2
Poached pear	½	½

1. Place two 6-in/15-cm cake rings on a sheet pan lined with plastic wrap and place a textured sheet in the bottom of each ring.

2. Freeze the poached pear gelée in one 6-in/15-cm cake pan lined with plastic wrap. Remove the frozen gelée from the pan and trim into a 5-in/13-cm round. Reserve in the freezer.

3. Portion 8 oz/230 g of the Bavarian cheese mousse into the other 6-in/15-cm cake ring. Lightly press 1 round of carrot cake into the mousse so it comes up the sides of the cake.

4. Spread another 8 oz/230 g of the mousse on top of the carrot cake. Lightly press the frozen round of gelée into the mousse so it comes up the sides of the gelée. Place the final layer of carrot cake on top and press into the mousse so it is level with the top of the cake ring. Freeze the cake for 6 hours or overnight, until completely set.

5. Warm the sides of the cake ring using a propane torch or a towel moistened with warm water and carefully remove the ring.

6. Garnish with a half of a poached pear and a candied carrot chip.

APPLE SPICE ENTREMET

MAKES 6 CAKES (6 IN/15 CM)

INGREDIENT	U.S.	METRIC
Steamed Apple Insert (page 553)	1 lb 5 oz	600 g
Vanilla Cumin Cremeux (page 414)	1 lb 5 oz	600 g
Apple Spice Cake (page 321), 5-in/13-cm round	6	6
Sablée Breton (page 356), 6-in/15-cm round	6	6
Apple Superpomme	As needed	As needed
Apple Mousse (page 429)	3 lb 6 oz	1.53 kg
White chocolate spray (see page 544)	As needed	As needed
Green Mirror Glaze (page 495)	As needed	As needed
Apple Chips (page 1074)	As needed	As needed
Marzipan Leaves (page 1020)	As needed	As needed
Almond Macarons (page 372)	As needed	As needed

1. Place 3½ oz/100 g of steamed apple insert in each of six 5-in/13 cm round silicone flexible molds and level it. Refrigerate until set.

2. Pour 3½ oz/100 g of the cremeux over the apples in each mold. Place the apple spice cake on the cremeux and press lightly into the cremeux so it comes up the sides of the cake. Wrap tightly in plastic wrap and freeze for 6 hours, or overnight, until set.

3. Unmold the sablé breton and spread each with a thin layer of apple Superpomme. Invert a cake and cremeux insert onto each sablé.

4. Divide the mousse among six lightly greased 6-in/15-cm round silicone flexible molds. Invert a cremeux insert into each mold, so the sablé is even with the top of the mold. Wrap tightly in plastic wrap and freeze for 6 hours or overnight, until set.

5. Unmold the cakes and spray with white chocolate spray.

6. Pipe green mirror glaze into the center of the cakes.

7. Decorate as desired with apple chips, marzipan leaves, and macarons.

HARVEST APPLE CHEESECAKE

MAKES 1 CAKE (6 IN/15 CM)

INGREDIENT	U.S.	METRIC
Linzer Dough (page 239)	4 oz	110 g
Poached Apple Compote (page 524)	10 oz	280 g
Cinnamon Ganache (page 486)	3 oz	90 g
Pumpkin Quick Bread (page 273), 5-in/13-cm round, ½ in/1 cm thick	1	1
Vanilla Simple Syrup (page 1079)	2 oz	60 g
Pumpkin Cheesecake Mousse (page 444)	1 lb	450 g
Spiced Mirror Glaze (page 491)	4 oz	110 g

1. Roll out the linzer dough ¼ in/0.6 cm thick. Transfer to a parchment-lined sheet pan. Chill at least 30 minutes. Cut the dough into a 5-in/13-cm round.

2. Bake at 350°F/177°C until golden brown, about 12 minutes. If the cookie spreads while baking, trim it back to a 5-in/13-cm round while still warm. Cool completely.

3. Freeze the apple compote in two 6-in/15-cm cake pans lined with plastic wrap. Remove the frozen compote from the pans and cut one into a 5-in/13-cm round and the other with an apple-shaped cutter. Reserve in the freezer.

4. Spread the cinnamon ganache on the linzer cookie round. Place the pumpkin cake round on top and brush with the simple syrup.

5. Line a sheet pan with plastic wrap and place a 6-in/15-cm cake ring on top. Place the frozen apple-shaped compote in the center. Spread 8 oz/230 g of the cheesecake mousse into the prepared cake ring.

6. Lightly press the round of frozen apple compote into the mousse so the mousse comes up the sides of the compote.

7. Fill the cake ring to ¾ in/2 cm from the top with the remaining cheesecake mousse. Invert the linzer cookie and pumpkin cake and press into the mousse, making sure the linzer cookie is level with the top of the ring. Freeze the cake for 6 hours or overnight, until completely frozen.

8. Working with the cake still frozen and in the ring, flip the cake over so that the apple-shaped compote is facing up. Ladle the mirror glaze into the center of the cake. Spread with an offset spatula to cover the surface completely.

9. Warm the sides of the cake ring using a propane torch or a towel moistened with warm water and carefully remove the ring. Garnish as desired and serve.

FIG NEWTON CAKE

MAKES 1 CAKE (6 IN/15 CM)

INGREDIENT	U.S.	METRIC
Patterned Joconde Sponge (page 308)	1 sheet	1 sheet
Fresh figs	12, plus more for garnish	12, plus more for garnish
Fig Newton Dough (page 250)	4 oz	110 g
Fig Compote (page 523)	6 oz	170 g
Almond Dacquoise (page 324), 5-in/13-cm round	2	2
Mascarpone Mousse (page 443)	1 lb	450 g
Red-colored spray cocoa butter	As needed	As needed
Mirror Glaze (page 491)	4 oz	110 g
Candied almonds	3	3
Candied Orange Peel (page 938)	4	4

1. Lightly butter a 6-in/15-cm cake ring and line with the strip of Joconde cut 1 by 19 in/3 by 48 cm. Cut the fresh figs in half and place them cut side out, side by side around the interior of the cake ring just above the Joconde, trimming as necessary so they don't come above the ring.

2. Roll out the Fig Newton dough to ¼ in/0.6 cm thick and cut one 5-in/13-cm round. Transfer to a parchment-lined sheet pan. Bake at 325°F/163°C until golden brown, about 12 minutes. Trim to a 5-inch/13-cm round while still warm. Cool completely.

3. Spread 3 oz/90 g of the fig compote on top of the cookie round and top with a round of dacquoise. Press gently to adhere.

4. Spread the remaining 3 oz/90 g of the fig compote on top of the second dacquoise round and reserve.

5. Portion 8 oz/230 g of the mascarpone mousse into the cake ring, being careful not to dislodge the Joconde or figs.

6. Invert the dacquoise-fig layer onto the mousse with the fig side down and press gently into place so the mousse comes up the sides of the dacquoise.

7. Spread the remaining mousse in the cake ring and place the cookie-dacquoise sandwich on top with the cookie facing up. Press gently into place. Wrap the cake tightly in plastic wrap and freeze for 6 hours or overnight, until completely set.

8. Working with the cake still frozen and in the ring, spray a pattern on top of the cake with red-colored cocoa butter. Ladle the mirror glaze into the center of the cake. Spread with an offset spatula to cover the surface completely. Refrigerate to set the glaze.

9. Warm the sides of the cake ring using a propane torch or a towel moistened with warm water and carefully remove the ring. Garnish with fresh figs, candied almonds, and candied orange peel.

COCONUT PINEAPPLE PASSION FRUIT CAKE

MAKES 1 CAKE (6 IN/15 CM)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	3 oz	90 g
Décor Biscuit (page 390)	1 sheet	1 sheet
Butter, softened	As needed	As needed
Braised Pineapple (page 1068)	1	1
White chocolate, melted	2 oz	60 g
Coconut Dacquoise (page 323), 5-in/13-cm round	2	2
Coconut Mousse (page 430)	8 oz	230 g
Passion Fruit Chibouste (page 456)	8 oz	230 g
Candied pineapple, sliced ⅛ in/0.3 cm thick	3 oz	90 g
Passion Fruit Glaze (page 494)	4 oz	110 g
Passion fruit seeds	As needed	As needed
White chocolate spirals	As needed	As needed

1. Line a sheet pan with plastic wrap and place a 6-in/15-cm cake ring on top.

2. Roll out the cookie dough ⅛ in/0.3 cm thick and cut a 5-in/13-cm round. Transfer to a parchment-lined sheet pan. Chill at least 30 minutes.

3. Bake at 350°F/177°C until golden brown, about 12 minutes. If the cookie spreads while baking, trim it back to 5 in/13 cm while still warm. Cool completely.

4. Cut a strip of décor biscuit 1½ by 19 in/4 by 48 cm. Brush the inside of the cake ring lightly with softened butter and line the interior with the décor biscuit strip.

5. Place three ⅛-in/0.3-cm-thick slices of the braised pineapple in the center of the ring, overlapping the slices so there is at least 1 in/3 cm space between the ring and the edge of the pineapple.

6. Using a pastry brush, brush the white chocolate onto one of the dacquoise layers and sandwich with the cookie base.

7. Spread the coconut mousse on top of the pineapple in the cake ring.

8. Lightly press the plain dacquoise layer into the mousse so it comes up the sides of the dacquoise.

9. Spread the passion fruit mousse in the ring mold, bringing it to ¾ in/2 cm from the top of the ring. Sprinkle with the candied pineapple.

10. Place the cookie-dacquoise sandwich on top with the cookie facing up. Press gently into place. Wrap the cake tightly in plastic wrap and freeze for 6 hours or overnight, or until completely frozen.

11. Working with the cake still frozen and in the ring, ladle the passion fruit glaze into the center of the cake. Spread with an offset spatula to cover the surface completely. Warm the sides of the cake ring using a propane torch or a towel moistened with warm water and carefully remove the ring. Place the cake on a platter or cake board. Garnish with passion fruit seeds and white chocolate spirals.

COCONUT FRANGIPANE CAKE

MAKES 48 OVALS (2 BY 3½ IN/5 BY 9 CM)

INGREDIENT	U.S.	METRIC
Butter	14 oz	410 g
Confectioners' sugar	1 lb 2 oz	510 g
All-purpose flour	7 oz	200 g
Light rum	1¾ oz	50 g
Eggs	10½ oz	300 g
Heavy cream	10½ oz	300 g
Desiccated coconut, dried with a little sugar (see Chef's Note)	10½ oz	300 g
Simple Syrup (page 1079)	As needed	As needed
Rum, for brushing	As needed	As needed
Swiss Meringue (page 476)	As needed	As needed

1. Beat the butter, sugar, and flour with the paddle attachment on medium speed until smooth, about 2 minutes.

2. Combine the rum, eggs, and heavy cream. Add to the creamed mixture one-quarter at a time, blending until well combined and scraping the bowl as needed. Add the coconut and blend.

3. Place oval flexible molds on a sheet pan. Fill a pastry bag fitted with a #6 straight tip with the batter and pipe the frangipane halfway up in the molds.

4. Bake at 350°F/177°C until the cakes are golden brown and thoroughly baked, 8 to 12 minutes.

5. With a brush, soak the cakes with simple syrup and rum.

6. Once the cakes have cooled, remove from the molds. Fill a pastry bag fitted with a flat tip (rose petal) with the Swiss meringue. Pipe the meringue on top of the cake with a snake-like motion. Brûlée the cakes with a torch until the tops are golden brown. Freeze until needed.

CHEF'S NOTE

To dry coconut with a little sugar, toss with 2 oz/60 g of sugar and place on a parchment-lined sheet pan in a 300°F/149°C oven for 10 minutes or until dry.

FRANGIPANE CAKE

MAKES 1 HALF SHEET PAN, 50 PETITS FOURS (1 IN/3 CM EACH)

INGREDIENT	U.S.	METRIC
Almond paste	7 oz	200 g
Butter, soft	7 oz	200 g
Sugar	7 oz	200 g
Eggs	9 oz	260 g
Cake flour, sifted	3 oz	90 g

1. Line a half sheet pan with parchment paper.

2. Cream the almond paste, butter, and sugar with the paddle attachment on medium speed until light and fluffy, about 10 minutes. Blend the eggs and add in 2 or 3 additions, scraping down the bowl after each addition, until fully incorporated. On low speed, mix in the flour until just blended.

3. Spread the batter evenly in the prepared sheet pan.

4. Bake at 375°F/191°C until golden brown, about 20 minutes. Cool completely in the pan.

5. Wrap tightly in plastic wrap while in the pan and refrigerate or freeze until needed, up to 3 weeks. (To assemble petits fours, see "Glazed Petits Fours," page 729.)

LEFT: *Dipping petit fours in warmed fondant*

MIDDLE: *Piping a filigree on petits fours for décor (see Appendix B, page 1082, for designs)*

RIGHT: *Use precise measure or cutters for petits fours.*

GLAZED PETITS FOURS

THE TERM *PETIT FOUR* refers to a small sweet item that can be consumed in one or two bites. This category, also called *mignardises*, includes a wide variety of pastries. Classic glazed petits fours are just one type. Frangipane is the cake of choice for glazed petits fours not only because of its flavor, but because its dense, moist crumb makes it suitable for dipping in fondant without causing the cake to crumble.

The cake must be chilled before unmolding, cutting, or assembling the petits fours. After the cake has cooled, invert it onto a rack and remove the parchment. Cut the cake crosswise into two or three equal pieces. Spread the top of the first layer with a very thin coating of apricot or raspberry jam. Top with the second layer of cake, putting the top of the cake down, and spread with jam. Top with the third layer. Spread the last layer with a very thin coating of jam (each finished petit four should be no higher than 1 in/3 cm).

Roll out 8 oz/227 g marzipan to ¹⁄₁₆ in/0.15 cm thick and cover the top of the frangipane. Trim off any excess marzipan Tightly wrap the layered sheet in plastic wrap and refrigerate or freeze until firm. Cut the petits fours into rectangles, squares, or diamonds with a knife or into a variety of shapes (circles, ovals, flowers, etc.) using different cutters.

To dip and glaze the cut petits fours, heat and thin fondant (see page 469) in a bowl that is deep enough to accommodate the petits fours. One at a time, place a petit four upside down in the fondant and gently press it down until the bottom of the cake is level with the surface of the fondant. Remove the glazed cake and place it on an icing screen to allow the fondant to set completely before adding any décor.

The classical décor for glazed petits fours is piped filigree, but there are other contemporary décor options; see Appendix B, page 1082.

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BREAKFAST PASTRIES

For generations, Europeans have reveled in the pastries they enjoy each morning. In France, viennoiseries—baked products that are sweeter and heavier than bread—are typically eaten at breakfast. Breakfast pastries include everything from flaky croissants to crisp fruit-filled Danish to moist blueberry muffins.

CROISSANT AND DANISH DOUGHS

CROISSANT AND DANISH DOUGHS have many similarities in ingredients and preparation methods. They differ, however, in ratios and application of ingredients. Danish dough contains a higher percentage of fat and other enriching ingredients, which give finished pastries using this dough flakier layers. Danish dough is commonly used to prepare individual as well as larger cake-style pastries, while croissant dough is used only to produce individually sized items.

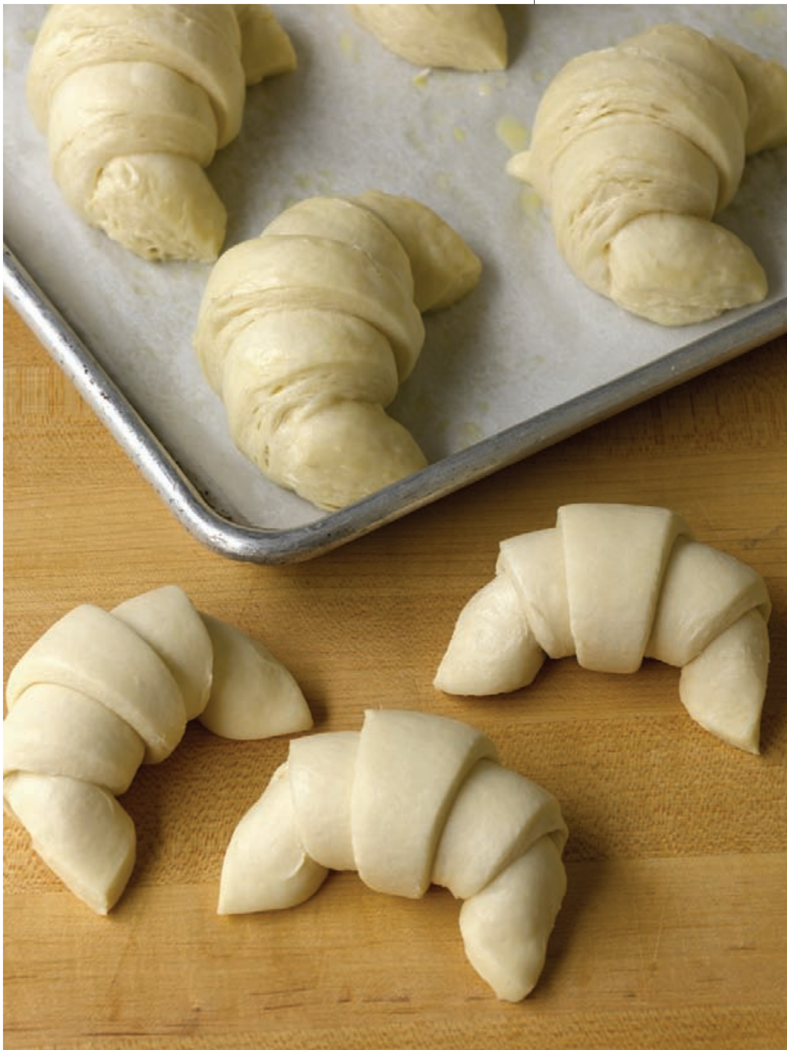
1. Prepare croissant and Danish doughs as directed. Croissant and Danish doughs are laminated using the same principles as apply when making puff pastry; the only difference is that these two doughs have the additional leavening power of yeast. The addition of yeast to a laminate dough results in pastry that is tender and soft inside, rather than crisp like puff pastry.

2. To work with croissant and Danish dough after they are completely prepared, keep the dough chilled, taking out only the amount you can cut, fill, and shape in a relatively short time. If the dough starts to warm as you work with it, you may lose some of the flaky, delicate texture that is the hallmark of a well-made Danish or croissant.The delicate and flaky texture desired of this product is created by maintaining distinct layers of fat and dough throughout the process; warm dough may result in overly softened butter that oozes out of the layers during rolling.

3. Use a sharp knife when shaping or cutting the dough. Clean cuts will ensure that the baked item rises evenly. To keep cuts even and straight when cutting by hand, use a straight edge as a guide. Pastry wheels are helpful when cutting large quantities of dough. Croissant dough may be cut using specialty cutters. As the pastry is cut, you may create scraps or trim. These scraps can be reserved and rerolled for use in pastries where high, straight rise is not critical. Scraps should be layered flat on top of each other, preserving the layers of fat and dough, and then rolled and stored under refrigeration or frozen.

4. After Danish or croissant dough has been filled as desired and shaped, the pastries are pan-proofed until nearly double in volume. Typically, they are lightly coated with egg wash. Depending upon the shaping and filling technique, Danish dough may be brushed with a clear fruit glaze or gel after baking for even greater moisture, flavor, and visual appeal.

TOP TO BOTTOM: *Pumpkin Fontaines (page 757), Chausson aux Pommes (page 748), Pain aux Raisins (page 756), Apple Turnover (page 748), Cherry Cheese Baskets (page 749)*



Fully proofed croissants, ready to bake (top), and unproofed croissants just after shaping (bottom)

COFFEE CAKES

COFFEE CAKES ARE USUALLY made with either sweet or Danish dough and are filled with a variety of items such as fruits, nuts, and smears. There are many ways to shape coffee cakes as well; wreaths, braids, and twists are common methods used with these cakes.

CLOCKWISE FROM RIGHT: *Wreath Coffee Cake (page 755), Braided Coffee Cake (page 751), Chocolate and Pecan Babka (page 199)*

MUFFINS

MUFFINS ARE A GREAT addition to any breakfast plate. Typically the creaming method (see page 256) is used to make muffins, which results in rich baked goods with an exceptionally smooth, light, and even texture.

A variety of different fruits, flavors, nuts, and garnishes can be added to muffins to give them a special flair. Citrus zests add a refreshing tang to your muffins; chocolate gives them a rich, decadent taste. The options are limitless when it comes to creating muffins.

DOUGHNUTS

DOUGHNUTS CAN BE MADE from a traditional yeast-raised enriched dough to create a traditional pastry; brioche dough can also be used to create a lighter, airier version. When creating handmade brioche doughnuts, it is desirable to have a white ring around the doughnut. This is a sign of proper proofing and frying. Some mass-produced doughnuts are uniformly browned throughout because they are fried in conveyor-belt type fryers that completely submerge the doughnut in hot oil for quicker frying. Doughnuts are versatile because they can be made into virtually any shape or size and filled or coated with any number of glazes, sugars, or fillings.

CRANBERRY ORANGE MUFFINS

MAKES 1 DOZEN MUFFINS (3½ OZ/100 G EACH)

INGREDIENT	U.S.	METRIC
All-purpose flour	13 oz	370 g
Baking powder	¾ tsp	6 g
Granulated sugar	10½ oz	300 g
Butter, soft	2¾ oz	80 g
Salt	1½ tsp	9 g
Eggs	5 oz	140 g
Buttermilk	5 oz	140 g
Vanilla extract	1 tbsp	15 mL
Vegetable oil	2¾ oz	80 g
Cranberries (fresh or frozen)	11 oz	310 g
Orange zest, grated	1½ oz	40 g
Coarse sugar	2 oz	60 g

TOP TO BOTTOM: *Vanilla Sugar Doughnuts (page 759), Maple Doughnuts (page 759), Passion Fruit–Glazed Doughnuts (page 759), Chocolate-Glazed Doughnuts (page 759), Jelly Doughnuts (page 759)*

1. Coat the muffin tin with a light film of fat or use appropriate paper liners.
2. Sift together the flour and baking powder.
3. Cream together the sugar, butter, and salt with the paddle attachment on medium speed, scraping down the bowl periodically, until the mixture is smooth and light in color, about 5 minutes.
4. Whisk together the eggs, buttermilk, vanilla, and oil. Add to the butter-sugar mixture in two or three additions, mixing after each addition until fully incorporated and scraping down the bowl as needed.
5. Add the sifted dry ingredients and mix on low speed until evenly moistened. Fold in the cranberries and orange zest.
6. Scale 3½ oz/100 g batter into the prepared muffin tin, filling the cups three-quarters full.
7. Gently tap the filled tin to release any air bubbles. Sprinkle with coarse sugar.
8. Bake at 375°F/191°C until a skewer inserted near the center of a muffin comes out clean, about 30 minutes.
9. Cool the muffins in the tin for a few minutes, then transfer to a rack to cool completely.

CHEF'S NOTE

Replace the coarse sugar with 12 oz/340 g Streusel Topping (page 1079) for an alternative.

VARIATIONS

BLUEBERRY MUFFINS *Omit the cranberries and orange zest and fold in 12 oz/340 g blueberries (fresh or frozen) in step 5 after adding the dry ingredients. Follow the remaining method as stated above.*

MIXED BERRY MUFFINS *Omit the cranberries and orange zest and fold in 12 oz/340 g frozen mixed berries in step 5 after adding the dry ingredients. Follow the remaining method as stated above. The mixed berries could include raspberries, blueberries, chopped strawberries, or quartered blackberries.*

LEMON POPPY-SEED MUFFINS

MAKES 4 DOZEN MUFFINS (4 OZ/110 G EACH)

INGREDIENT	U.S.	METRIC
Pastry flour	1 lb 8 oz	680 g
Bread flour	1 lb 8 oz	680 g
Baking powder	1¼ oz	40 g
Butter, soft	2 lb	910 g
Granulated sugar	2 lb 6½ oz	1.09 kg
Salt	1 tsp	6 g
Crème fraîche or sour cream	1 lb 2 oz	510 g
Eggs	2 lb	910 g
Lemon juice	4½ oz	130 g
Lemon extract	1 tbsp	15 mL
Vegetable oil	8 oz	230 g
Lemon zest, grated	1½ oz	40 g
Poppy seeds	4 oz	110 g
Coarse sugar	As needed	As needed

1. Coat the muffin tins with a light film of fat or use appropriate paper liners.
2. Sift together the flours and baking powder.
3. Cream together the butter, granulated sugar, and salt with the paddle attachment on medium speed, scraping down the bowl periodically, until the mixture is smooth and light in color, about 5 minutes. Blend in the crème fraîche.
4. Whisk together the eggs, lemon juice, lemon extract, and oil. Add to the butter-sugar mixture in two or three additions, mixing after each addition until fully incorporated and scraping down the bowl as needed. Blend in the lemon zest and poppy seeds.
5. Add the sifted dry ingredients and mix on low speed until evenly moistened.
6. Scale 4 oz/110 g batter into the prepared muffin tins, filling the cups three-quarters full.
7. Gently tap the filled tins to release any air bubbles. Sprinkle with coarse sugar.
8. Bake at 375°F/191°C until a skewer inserted near the center of a muffin comes out clean, about 30 minutes.
9. Cool the muffins in the tins for a few minutes, and then transfer to racks to cool completely.

MORNING GLORY MUFFINS

MAKES 1 DOZEN MUFFINS (4½ OZ/130 G EACH)

INGREDIENT	U.S.	METRIC
All-purpose flour	14 oz	400 g
Sugar	12¼ oz	350 g
Ground cinnamon	1 tsp	2 g
Baking soda	2¼ tsp	11 g
Salt	¼ tsp	1.5 g
Coconut, shredded	3½ oz	100 g
Raisins	5½ oz	160 g
Carrots, grated	5½ oz	160 g
Apples, grated	7 oz	200 g
Pineapple, crushed, drained	5½ oz	160 g
Walnuts, toasted and chopped	2¾ oz	80 g
Eggs	8 oz	230 g
Vegetable oil	7½ oz	210 g
Vanilla extract	1 tsp	5 mL
Rolled oats	As needed	As needed

1. Coat the muffin tin with a light film of fat or use appropriate paper liners.

2. Sift together the flour, sugar, cinnamon, baking soda, and salt. Blend the coconut, raisins, carrots, apples, pineapple, and walnuts into the sifted dry ingredients.

3. Combine the eggs, oil, and vanilla.

4. Blend the dry ingredient mixture into the egg mixture.

5. Scale 4½ oz/130 g batter into the prepared muffin tin, filling the cups three-quarters full. Gently tap the filled tins to release any air bubbles. Sprinkle rolled oats over the top of each muffin.

6. Bake at 375°F/191°C until a skewer inserted near the center of a muffin comes out clean, about 30 minutes.

7. Cool the muffins in the tin for a few minutes, then transfer to a rack to cool completely.

BRAN MUFFINS

MAKES 4 DOZEN MUFFINS (3½ OZ/100 G EACH)

INGREDIENT	U.S.	METRIC
Bread flour	1 lb 8 oz	680 g
Baking powder	1½ oz	40 g
Sugar	1 lb	450 g
Butter	8 oz	230 g
Salt	½ tsp	3 g
Eggs	1 lb	450 g
Milk	1 lb	450 g
Honey	4 oz	110 g
Molasses, unsulfured	4 oz	110 g
Oat bran	8 oz	230 g

1. Coat the muffin tins with a light film of fat or use appropriate paper liners.
2. Sift together the flour and baking powder.
3. Cream together the sugar, butter, and salt with the paddle attachment on medium speed, scraping down the bowl periodically, until the mixture is smooth and light in color, about 5 minutes.
4. Combine the eggs and milk and add to the butter mixture in three additions, mixing after each addition until fully incorporated and scraping down the bowl as needed. Add the honey and molasses and blend until just incorporated.
5. Add the sifted dry ingredients and the bran and mix on low speed until evenly moistened.
6. Scale 3½ oz/100 g batter into the prepared muffin tins, filling the cups three-quarters full. Gently tap the filled tins to release any air bubbles.
7. Bake at 375°F/191°C until a skewer inserted near the center of a muffin comes out clean, about 30 minutes.
8. Cool the muffins in the tins for a few minutes, then transfer to racks to cool completely.

CORN MUFFINS

MAKES 4 DOZEN MUFFINS (3½ OZ/100 G EACH)

INGREDIENT	U.S.	METRIC
Bread flour	1 lb 2 oz	510 g
Pastry flour	1 lb 2 oz	510 g
Fine cornmeal	15 oz	430 g
Salt	1 oz	30 g
Baking powder	1½ oz	40 g
Eggs	12½ oz	350 g
Milk	2 lb 6 oz	1.08 kg
Vegetable oil	1 lb 2 oz	510 g
Orange juice concentrate	1½ oz	40 g
Sugar	1 lb 12 oz	790 g

1. Coat the muffin tins with a light film of fat or use appropriate paper liners.

2. Sift together the flours, cornmeal, salt, and baking powder.

3. Combine the eggs, milk, oil, orange juice, and sugar and mix with the paddle attachment on medium speed for 2 minutes.

4. Add the sifted dry ingredients and mix on low speed until fully incorporated.

5. Scale 4 oz/110 g batter into the prepared muffin tins, filling the cups three-quarters full. Gently tap the filled tins to release any air bubbles.

6. Bake at 400°F/204°C until a skewer inserted near the center of a muffin comes out clean, 15 to 18 minutes.

7. Cool the muffins in the tins for a few minutes, then transfer to racks to cool completely.

CRÊPES SUZETTE

MAKES 6 SERVINGS, 3 CRÊPES PER SERVING

INGREDIENT	U.S.	METRIC
Sugar	1½ oz	40 g
Butter, cubed	6 oz	170 g
Orange zest	1½ oz	40 g
Orange juice	12 oz	340 g
Crêpes (page 241), 6 in/15 cm in diameter	18	18
Grand Marnier	3 oz	90 g
Brandy or cognac	3 oz	90 g

1. Preheat a crêpe pan over medium-low heat.

2. Sprinkle the sugar evenly across the bottom of the heated crêpe pan.

3. As the sugar begins to caramelize, add the butter to the outside edges of the pan and gently shake the pan, allowing the butter to evenly temper and blend with the sugar.

4. Add the orange zest and shake the pan gently to thoroughly blend all the ingredients until they become a light orange caramel color.

5. Pour the orange juice on the outside edges of the pan slowly, allowing it to temper and blend with the sugar mixture. Shake the pan gently, incorporating all the ingredients and allowing the sauce to thicken.

6. Place a crêpe into the sauce. Once one side of the crêpe is coated, flip it over to coat the other side of the crêpe. Repeat this process with the remaining crêpes (move quickly so the sauce does not become too thick). Shingle the crêpes on a sheet pan as you coat them.

7. Remove the pan from the heat and add the Grand Marnier but do not flame. Return to the heat and shake gently.

8. Slide the pan back and forth over the front edge of the heat; allow the pan to get hot.

9. Remove the pan, add the brandy, tip the pan slightly to flame, then shake the pan until the flame dies.

10. Fold 3 crêpes into quarters, shingle one over the other, and lightly coat with approximately 1 oz/30 g of sauce.

PAIN AU CHOCOLAT

MAKES 12 PASTRIES

INGREDIENT	U.S.	METRIC
Croissant Dough (page 248)	1 lb 14 oz	850 g
Egg Wash (page 1064)	As needed	As needed
Chocolate batons, 3 in/8 cm long	24	24

1. Roll the croissant dough into a rectangle 5 by 36 in/13 by 91 cm. Trim the edges so they are even. Cut the dough into twelve uniform 3 by 5 in/8 by 13 cm pieces.

2. Working one at a time with the short edge of the dough facing you, brush the bottom half of the rectangle with egg wash. Place 2 chocolate batons about ½ in/1 cm from the top of the dough. Roll the top of the dough down to the bottom to encase the batons and seal the pain au chocolate. Repeat with the remaining dough and batons.

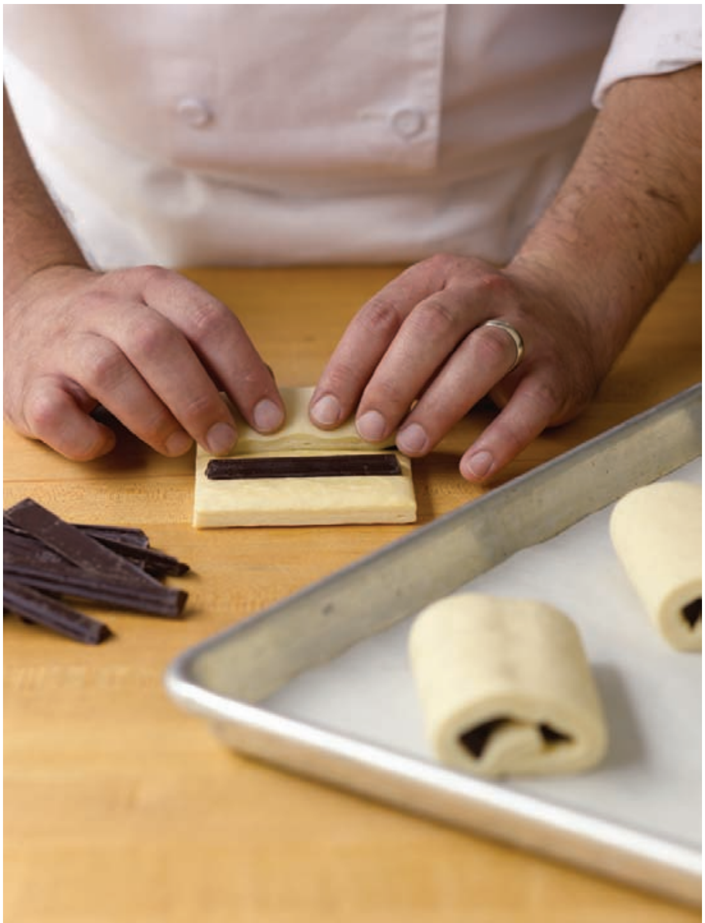
3. Place on a parchment-lined sheet pan, making four rows of three pastries each.

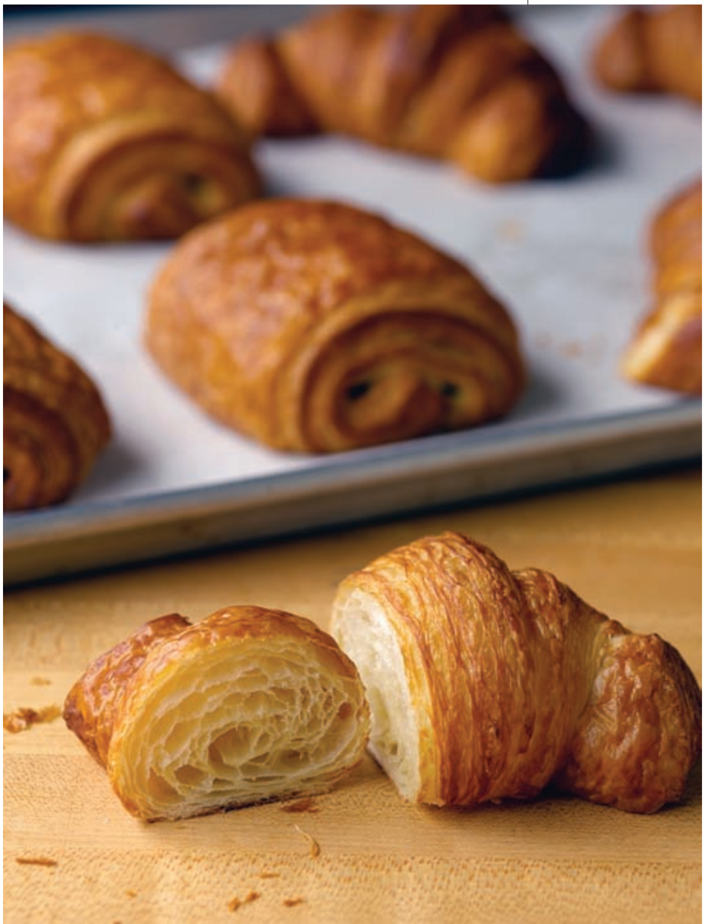
4. Proof at 85°F/29°C for 1 hour, or until doubled in size.

5. Brush the pastries with egg wash. Bake at 375°F/191°C until well browned, about 15 minutes.

LEFT: *Rolling pain au chocolate*

RIGHT: *Properly baked croissant: Note the internal structure. (Pain au Chocolate, page 743, is shown in the background.)*





CROISSANTS

MAKES 11 CROISSANTS

INGREDIENT	U.S.	METRIC
Croissant Dough (page 248)	2 lb 4 oz	1.02 kg
Egg Wash (page 1064)	As needed	As needed

1. Roll the dough into a rectangle 9 by 24 in/23 by 61 cm.

2. Cut 11 isosceles triangles, 9 in/23 cm high and 4 in/10 cm at the base, from the dough.

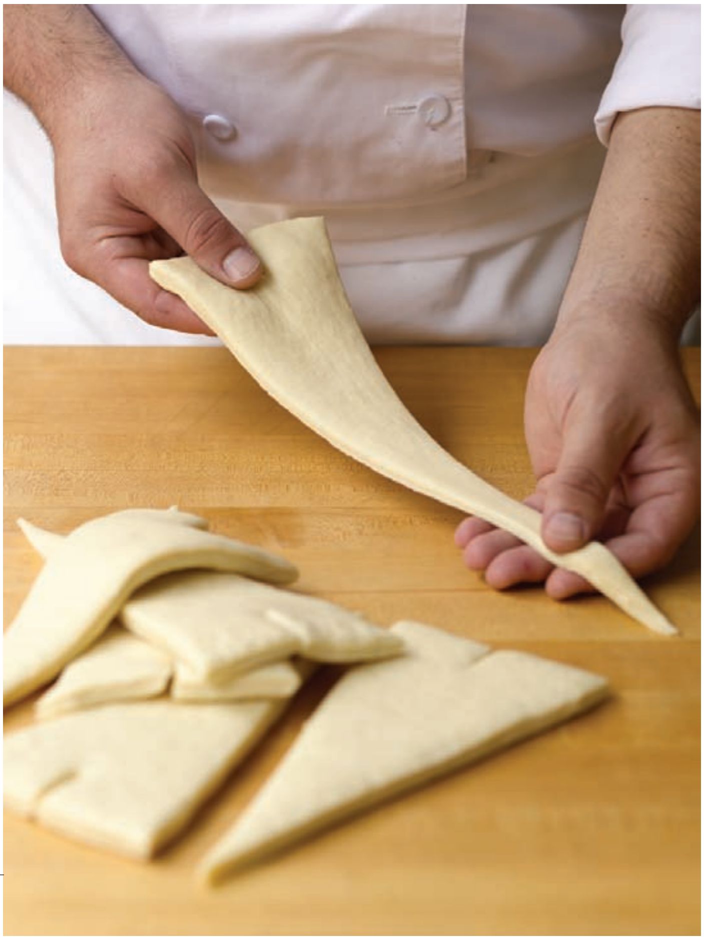
3. Make a ¾-in/2-cm slit in the center of the base of each triangle. Working with one triangle at a time, gently stretch each of the three points of the triangle to elongate them. Place the triangle on an unfloured table with the narrow point directly away from you. Roll the triangle up from the base, exerting gentle pressure with your fingertips. Place seam side down on a parchment-lined sheet pan, making four rows. Shape the croissants into crescents so that the ends curve inward at the front.

4. Brush the croissants with egg wash. Proof at 85°F/29°C for 1 hour or until doubled in size.

5. Brush the croissants with egg wash again. Bake at 375°F/191°C until well browned, about 15 minutes.

VARIATION

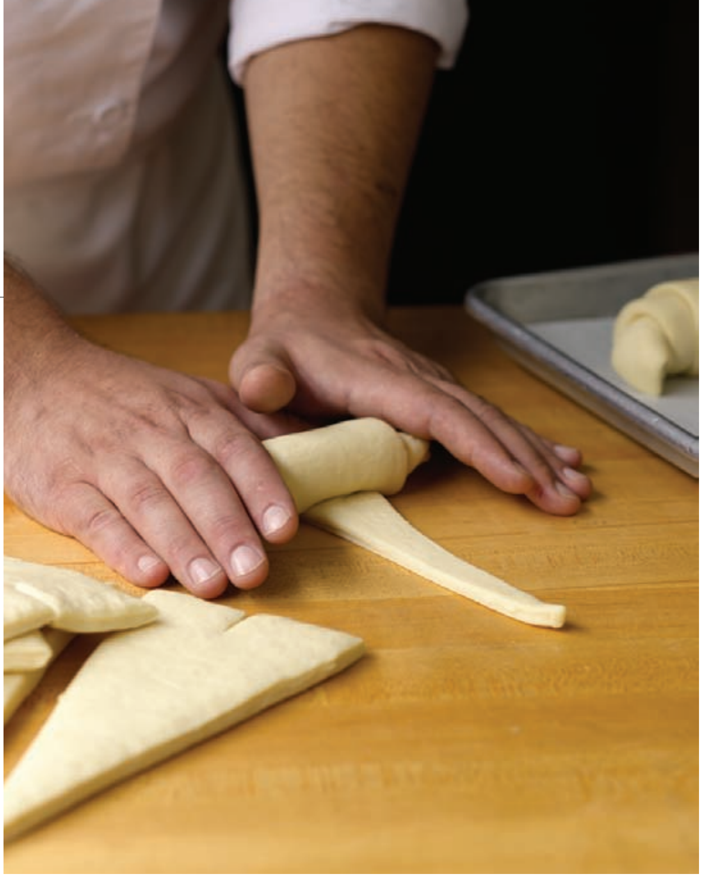
ALMOND CROISSANTS *Before rolling up the croissants, using a pastry bag fitted with a #4 plain tip, pipe ½ oz/14 g Almond Filling (page 1066) onto the base of each triangle. Leave the rolled croissants straight rather than making crescents. After the second egg wash, sprinkle untoasted sliced almonds onto the croissants.*

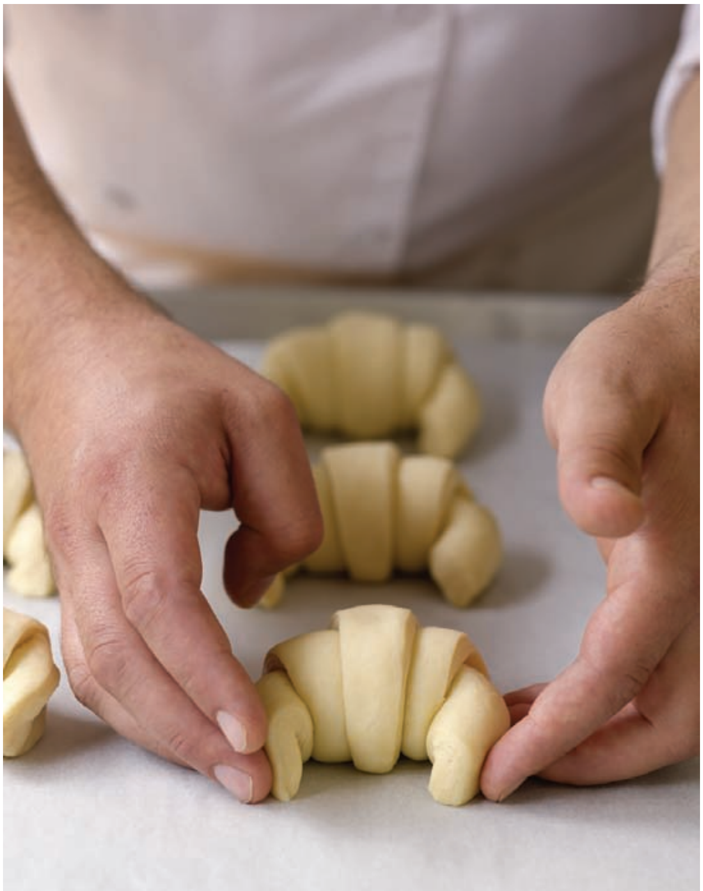


Stretching the triangle of croissant dough

TOP: *Rolling into a cylinder*

BOTTOM: *Shaping into a crescent*





BEAR CLAWS

MAKES 12 PASTRIES

INGREDIENT	U.S.	METRIC
Danish Dough (page 249)	2 lb	910 g
Egg Wash (page 1064)	As needed	As needed
Almond Filling (page 1066)	1 lb 2 oz	510 g
Sliced almonds	4 oz	110 g
Apricot Glaze (page 492), warm	As needed	As needed

1. Roll the dough into a rectangle 5 by 48 in/13 by 122 cm.

2. Brush the dough lightly with egg wash. Using a pastry bag fitted with a #9 plain tip, pipe a cylinder of filling lengthwise down the center of the dough. Fold the dough over the filling, lining up the edges carefully. Press the edges together to seal them.

3. Cut the dough crosswise into strips 4 in/10 cm wide.

4. Using a bench scraper, make four cuts in the seamed edge of each pastry. Curve the pastry back to open the cuts. Place the pastries on a parchment-lined sheet pan, making four rows of three pastries each.

5. Brush the pastries lightly with egg wash. Proof at 85°F/29°C for 1 hour, or until doubled in size.

6. Brush the pastries lightly with egg wash again. Sprinkle with the sliced almonds.

7. Bake at 375°F/191°C until golden brown, about 17 minutes.

8. Brush the pastries with the warm glaze while they are still hot. Cool completely before serving.

CHEESE POCKETS

MAKES 12 POCKETS

INGREDIENT	U.S.	METRIC
Danish Dough (page 249)	1 lb 8 oz	680 g
Egg Wash (page 1064)	As needed	As needed
Cheese Danish filling (page 1066)	12 oz	340 g
Sliced almonds	4 oz	110 g
Apricot Glaze (page 492), warm	As needed	As needed

1. Roll the dough into a rectangle 12 by 16 in/30 by 41 cm. Cut the dough into twelve 4-in/10-cm squares.

2. Brush each square lightly with egg wash. Using a pastry bag fitted with a #5 plain tip, pipe 1 oz/30 g of the cheese filling onto the center of each square. One at a time, fold the corners of the dough over the filling into the center, so that each corner overlaps the previous one. Seal the pocket by pressing gently on the overlapped corners. Pierce the center of the pocket with the almonds to ensure they stay closed.

3. Brush the pockets lightly with egg wash. Proof at 85°F/29°C for 1 hour, or until doubled in size.

4. Brush the pockets lightly with egg wash again. Bake at 350°F/177°C until golden brown, about 17 minutes.

5. Brush the pastries with the warm glaze while they are still hot.

LEFT: *Filling the squares of Danish dough with cheese filling*

RIGHT: *Brushing the baked pastries with apricot glaze*

CHERRY HALF-POCKETS

MAKES 12 PASTRIES

INGREDIENT	U.S.	METRIC
Danish Dough (page 249)	1 lb 8 oz	680 g
Egg Wash (page 1064)	As needed	As needed
Cherry Pie filling (page 629)	12 oz	340 g
Apricot Glaze (page 492), warm	As needed	As needed

1. Roll the dough into a rectangle 12 by 16 in/30 by 41 cm. Cut the dough into twelve 4-in/10-cm squares.

2. Brush each square lightly with egg wash. Place 1 oz/30 g of the cherry filling at the center of each square. Fold one corner of the dough over just so it covers the filling, and press to seal. Stretch the opposite corner of dough over the first folded corner and around to go under the finished pocket. Pinch lightly to seal.

3. Brush the pockets lightly with egg wash. Proof at 85°F/29°C for 1 hour, or until doubled in size.

4. Brush the pockets lightly with egg wash again. Bake at 375°F/191°C until golden brown, about 17 minutes.

5. Brush the pockets with the warm glaze while they are still hot.

VARIATIONS

APPLE TURNOVERS *Omit the cherry filling. Cut 5-in/13-cm disks of dough. Egg wash the border and fold in half. Press down on the border with your fingertips. Egg wash, proof, and sprinkle sanding sugar on top to cover the surface. Bake at 375°F/191°C until golden brown. Once cooled, fill with 1½ oz/40 g finely chopped Apple Pie filling (page 628) by making an incision in the back and piping the filling into the cavity.*

CHAUSSON AUX POMMES *Omit the cherry filling. Cut the dough into 6 by 3-in/15 by 8-cm ovals using a fluted oval cutter. Egg wash the border. Put 1 oz/30 g finely chopped Apple Pie filling (page 628) at the center of the oval and close like a book. Press down on the seams well with your fingertips. With a sharp paring knife, cut a leaf pattern on the surface of the dough. Egg wash, proof, egg wash again and sprinkle sanding sugar over the surface of the dough. Bake as directed.*

NUTELLA SQUARES *Omit the cherry filling. Cut the dough into 4-in/10-cm squares. Fold each corner to the center of the square, pressing down firmly so that the corners stay in place. Turn the square over so the corners are facing down. Place inside a 3-in/8-cm aluminum or stainless-steel ring. Egg wash, proof, then egg wash again. Bake until gold brown and cool. Once cooled, fill at the center with 1 oz/30 g Nutella. Dip a corner of the Danish into the Amaretto Glaze (page 493) and coat with ½ oz/14 g of chopped toasted hazelnuts. Garnish with a square chocolate plaque, if wanted.*

CHERRY CHEESE BASKETS

MAKES 12 PASTRIES

INGREDIENT	U.S.	METRIC
Danish Dough (page 249)	1 lb 8 oz	680 g
Egg Wash (page 1064)	As needed	As needed
Cheese Danish filling (page 1066)	8 oz	230 g
Cherry Pie filling (page 629)	8 oz	230 g
Apricot Glaze (page 492), warm	As needed	As needed

1. Roll the dough into a rectangle 12 by 16 in/30 by 41 cm. Cut the dough into twelve 4-in/10-cm squares.

2. Fold each square diagonally in half. Position a folded square so that the corner opposite the fold is pointing away from you. Insert the tip of the knife about ¼ in/0.6 cm from the corner and ½ in/1 cm from the edge of the dough and cut down through the dough, parallel to the edge, going through the folded side. Repeat on the opposite side, being careful not to cut through the corner.

3. Open out the square and brush lightly with egg wash. Fold over one of the cut corners so that its outside edge aligns with the newly cut inside edge on the opposite side. Repeat with the opposite side. Place on a parchment-lined sheet pan, and repeat with the remaining squares of dough.

4. Brush the pastries lightly with egg wash. Proof at 85°F/29°C for 1 hour.

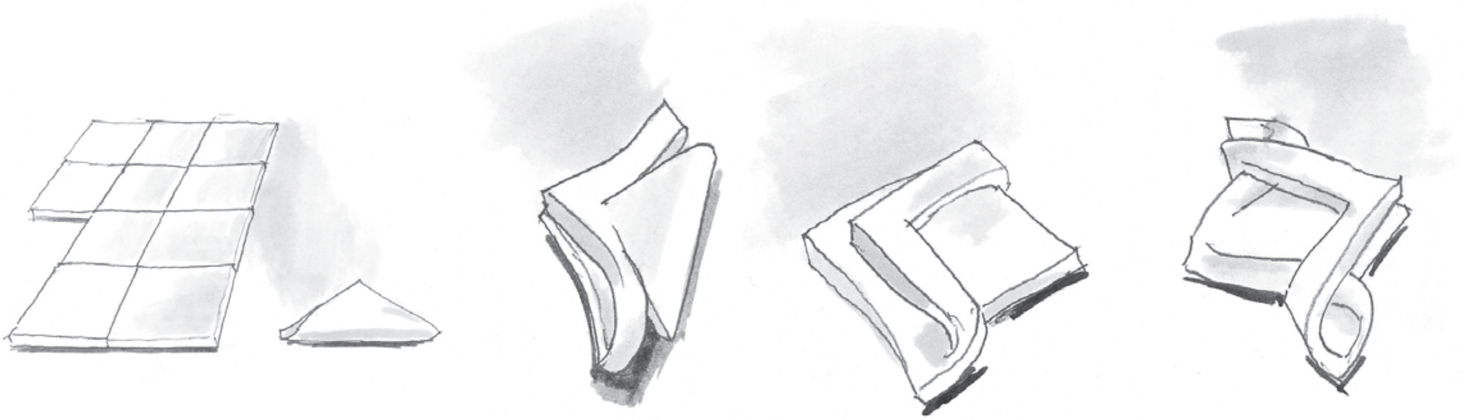
5. Dock the centers of the pastries. Using a pastry bag fitted with a #6 plain tip, pipe ½ oz/14 g of the cheese filling onto the center of each pastry. Then, using a #8 plain tip, pipe ½ oz/14 g of the cherry filling on top of the cheese on each pastry.

6. Brush the dough lightly with egg wash again. Bake at 350°F/177°C until golden brown, about 17 minutes.

7. Brush the pastries with the warm glaze while they are still hot.

CHEF'S NOTE

For the pastries in the photo on page 733, omit the cheese filling and use 1½ oz/40 g cherry filling for each Danish. Garnish with a white chocolate rectangle.



FROM LEFT TO RIGHT: *Cutting the dough into 4-inch/10-centimeter squares*

Cutting through the dough parallel to the edge of the dough

Folding the first cut corner

Folding the second cut corner

BRAIDED COFFEE CAKE

MAKES 1 CAKE (12 IN/30 CM LONG), 8 SLICES (1½ IN/4 CM EACH)

INGREDIENT	U.S.	METRIC
Danish Dough (page 249)	1 lb	450 g
Egg Wash (page 1064)	As needed	As needed
Apple Pie filling (page 628)	12 oz	340 g
Coarse sugar, for sprinkling	As needed	As needed
Apricot Glaze (page 492), warm	As needed	As needed

TOP TO BOTTOM: *Wreath Danish (page 755), Pumpkin Danish (page 757), Cashew Butter and Grape Jelly Danish (page 754), Nutella Squares(page 748), Plum Danish (page 754)*

1. Roll the dough into a rectangle 9 by 12 in/23 by 30 cm. Make a fringe down each long side of the dough by making cuts 3 in/8 cm long at intervals of 1 in/3 cm, leaving an uncut portion of dough in the center 3 in/8 cm wide.

2. Brush the dough lightly with egg wash. Place the filling in the middle of the uncut center portion of dough. One strip of dough at a time, fold the fringes over the filling at a 45-degree angle, alternating the sides and overlapping them.

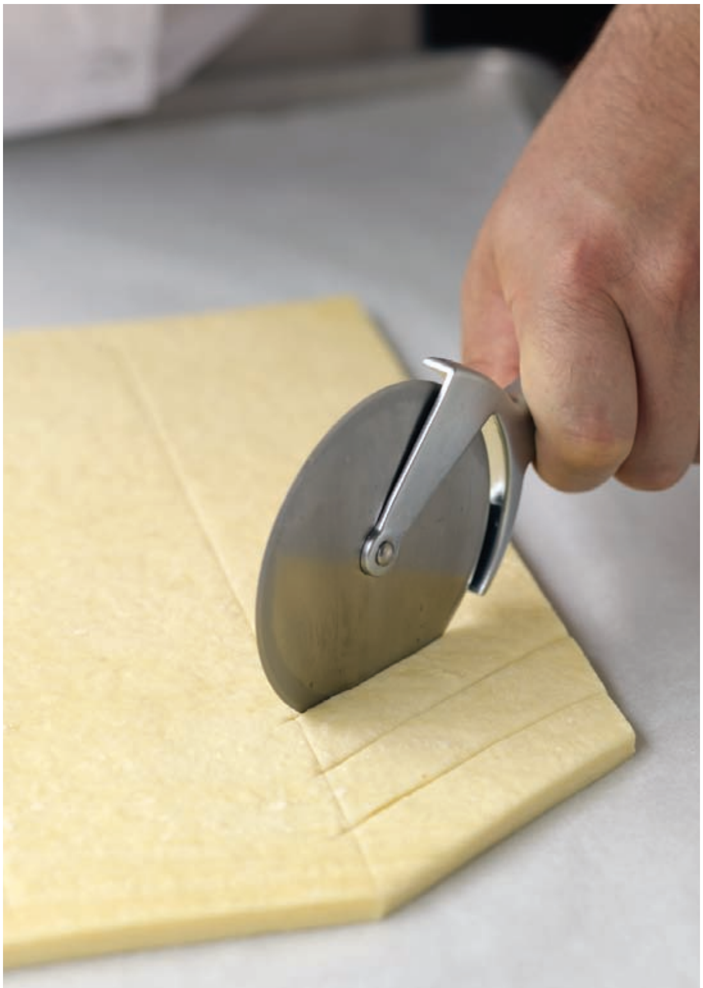
3. Place on a parchment-lined sheet pan. Proof at 85°F/29°C for 1½ hours.

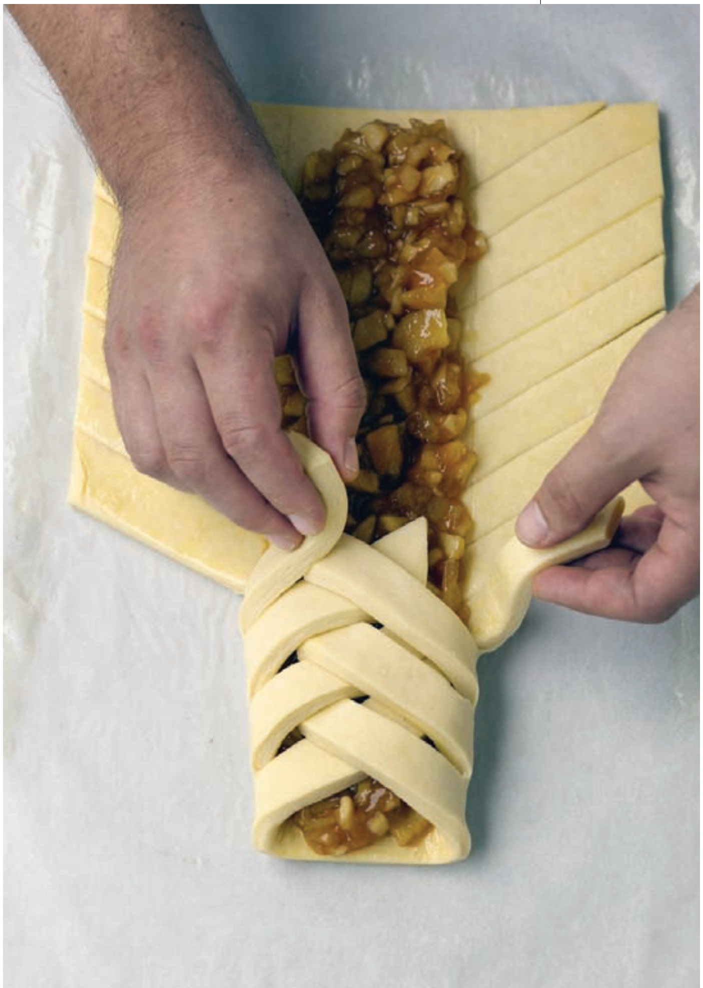
4. Brush the pastry lightly with egg wash again. Sprinkle with coarse sugar. Bake at 350°F/177°C until golden brown, about 40 minutes.

5. Brush the pastry with the warm glaze while it is still hot.

LEFT: *Cutting fringes in the rectangle of dough*

RIGHT: *Creating the braid after adding the filling*





SCHNECKEN

MAKES 12 PASTRIES

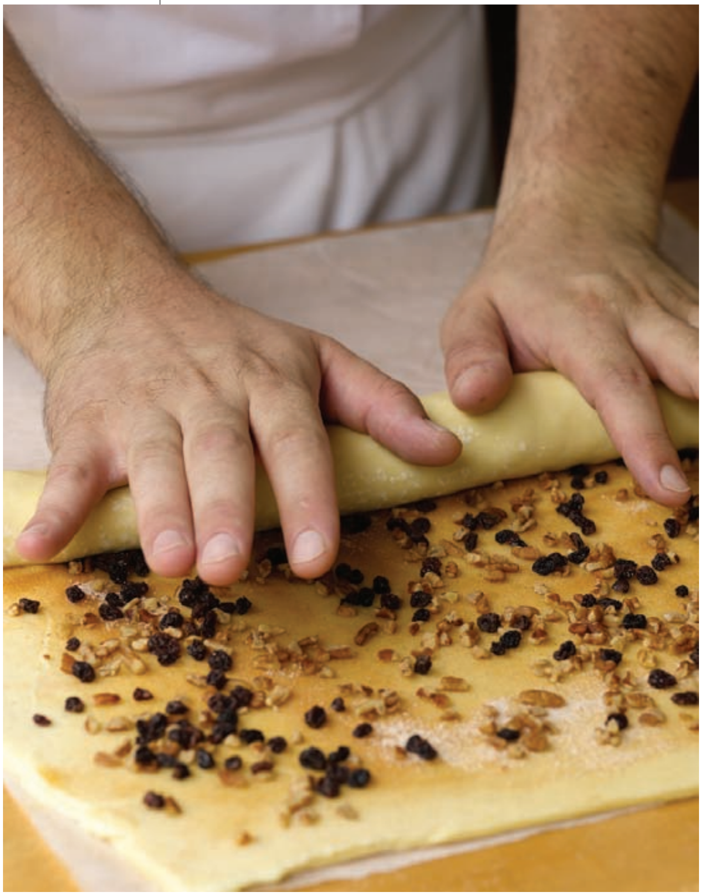
INGREDIENT	U.S.	METRIC
Danish Dough (page 249)	1 lb 4 oz	570 g
Pastry Cream (page 417)	5 oz	140 g
Cinnamon Sugar (page 1070)	½ oz	14 g
Pecans, toasted and chopped	3 oz	90 g
Dried currants	3 oz	90 g
Egg Wash (page 1064)	As needed	As needed
Apricot Glaze (page 492), warm	As needed	As needed

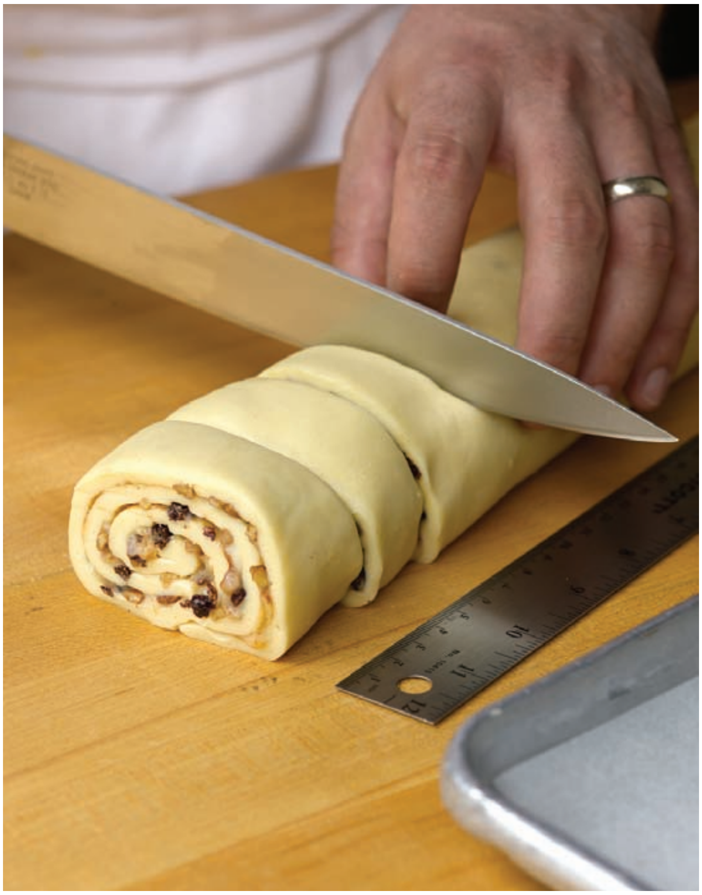
1. Roll the dough into a rectangle 8 by 16 in/20 by 41 cm.

2. Spread the pastry cream over the dough, leaving a bare strip of dough 1 in/3 cm wide along

LEFT: *Rolling the filling inside the dough*

RIGHT: *Slicing the schnecken roulade into portions*





one of the long sides. Sprinkle the cinnamon sugar onto the pastry cream. Sprinkle the pecans and currants evenly over the cream. Roll lightly over the top with a rolling pin to press the nuts and currants into the cream.

3. Starting from the long side with the filling, roll up the dough into a roulade 16 in/41 cm long and press gently to seal.

4. Cut the roulade into 12 equal pieces. Place the pieces cut side down on a parchment-lined sheet pan, making four rows of three pastries each.

5. Brush the pastries lightly with egg wash. Proof at 85°F/29°C for 1 hour.

6. Lightly brush the pastries with egg wash again. Bake in a 375°F/191°C convection oven until golden brown, about 17 minutes.

7. Brush the pastries with the warm glaze while they are still hot.

TWIST COFFEE CAKE

MAKES 1 CAKE (14 IN/36 CM LONG), 9 SLICES (1½ IN/4 CM EACH)

INGREDIENT	U.S.	METRIC
Danish Dough (page 249)	1 lb 8 oz	680 g
Raspberry jam	8 oz	230 g
Egg Wash (page 1064)	As needed	As needed
Apricot Glaze (page 492), warm	As needed	As needed

1. Roll the dough into a rectangle 8 by 14 in/20 by 36 cm.

2. Spread the jam over the dough, leaving bare a strip of dough 1 in/3 cm wide along one of the long sides.

3. Starting from the long side with the filling, roll up the dough into a roulade 14 in/36 cm long and press gently to seal. Using a sharp paring knife, cut three parallel lines down the length of the roulade to within 1 in/3 cm of each end of the roulade.

4. Holding the roulade at each end, gently twist it, then shape it loosely into a spiral and place on a parchment-lined sheet pan.

5. Brush the spiral lightly with egg wash. Proof at 85°F/29°C for 1½ hours.

6. Brush with egg wash again. Bake at 350°F/177°C until golden brown, about 45 minutes.

7. Brush the spiral with the warm glaze while it is still hot. Cool completely before serving.

DANISH TWISTS

MAKES 12 PASTRIES

INGREDIENT	U.S.	METRIC
Danish Dough (page 249)	2 lb 2 oz	960 g
Butter, melted	1 oz	30 g
Cinnamon Sugar (page 1070)	1 oz	30 g
Egg Wash (page 1064)	As needed	As needed
Raspberry jam	8 oz	230 g
Apricot Glaze (page 492), warm	As needed	As needed

1. Roll the dough into a rectangle 12 by 24 in/30 by 61 cm.

2. Brush the dough with the melted butter. Sprinkle the cinnamon sugar over the dough. Rollover the dough lightly with a rolling pin so the sugar adheres to it. Fold the dough crosswise in half to make a 12-in/30-cm square. Roll the dough to seal and slightly stretch it.

3. Cut the dough into 12 even strips. One at a time, hold each strip at both ends and twist it, then shape it loosely into a spiral and place on a parchment-lined sheet pan, leaving a 2-in/5-cm space between pastries.

4. Brush the spirals lightly with egg wash. Proof at 85°F/29°C for 1 hour, or until doubled in size.

5. Brush the spirals lightly with egg wash again, stipple the centers, and using a pastry bagfitted with a #3 plain tip, pipe jam into the center of each Danish twist.

6. Bake in a 375°F/191°C convection oven until golden brown, about 17 minutes.

7. Brush the Danish twists with the warm glaze while they are still hot.

VARIATIONS

CASHEW BUTTER AND GRAPE JELLY DANISH *Omit the cinnamon sugar and raspberry jam. Cut the dough into 11 by 1½-in/28 by 4-cm strips. Spiral inside a 4-in/10-cm diameter aluminum or stainless-steel ring. Egg wash, proof, then egg wash again. Bake at 375°F/191°C until golden brown, about 20 minutes. Once cooled, fill at the center with 1 oz/30 g cashew butter. Place a baked Linzer Cookie (page 351) on top. Fill in the gap with approximately ¾ oz/20 g grape jelly. Garnish with a fleck of edible gold leaf.*

PLUM DANISH *Omit the cinnamon sugar and raspberry jam. Cut the dough into 11 by 1½-in/28 by 4-cm strips. Tie each strip into a knot and place inside a 4-in/10-cm diameter aluminum or stainless-steel ring lined with parchment paper. Egg wash, proof, then egg wash again. Bake at 375°F/191°C until golden brown. Cool. Once cooled, fill the center through the bottom with 1 oz/30 g plum jam. Garnish the top with ¾ oz/20 g Italian buttercream (page 480), a pinch of violet sugar, and ½ tsp/3 g feuilletine.*

WREATH COFFEE CAKE

MAKES 1 CAKE, 9 SLICES (1½ IN/4 CM EACH)

INGREDIENT	U.S.	METRIC
Danish Dough (page 249)	1 lb 8 oz	680 g
Hazelnut Filling (page 1068)	12 oz	340 g
Egg Wash (page 1064)	As needed	As needed
Sliced almonds	4 oz	110 g
Apricot Glaze (page 492), warm	As needed	As needed

1. Roll the dough into a rectangle 8 by 14 in/20 by 36 cm.

2. Spread the filling over the dough, leaving a 1-in/2.5-cm border. Brush the border with egg wash. Roll up the dough into a roulade 14 in/36 cm long, sealing the dough with the egg wash, and transfer to a parchment-lined sheet pan, placing the roulade seam side down.

3. Using a bench scraper, cut almost all the way through one side of the roulade at intervals of 1 in/3 cm, and join the ends to form a wreath. Twist each sliced portion outward to expose the interior.

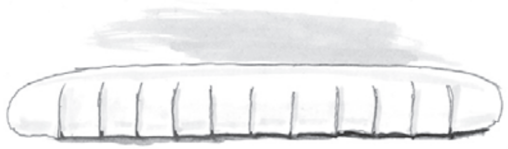
4. Brush the wreath lightly with egg wash. Proof at 85°F/29°C for 1½ hours.

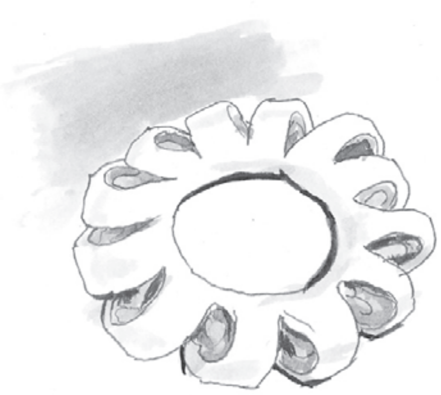
5. Brush the wreath lightly with egg wash again, and sprinkle with the almonds. Bake at 350°F/177°C until golden brown, about 45 minutes.

6. Brush the wreath with the warm glaze while it is still hot.

VARIATION

For individual Wreath Danish, omit the hazelnut filling. Roll the dough 11 in/28 cm long and ¼ in/0.6 cm thick. Cut into 1½-in/4-cm-wide strips, then cut each strip into three ½-in/1-cm-wide strips. Make a braid with the strips and place inside a 4-in/10-cm diameter aluminum or stainless-steel ring lined with parchment paper. Egg wash, proof, then egg wash again. Bake at 375°F/191°C until golden brown, about 15 minutes. Once cooled, fill the center with 1 oz/30 g Lemon Curd (page 425). Coat in Buttermilk Glaze (page 761). Garnish with candied orange peel and a "kiss" of Italian Meringue (page 476), piped on with a fluted tip and browned with a blow torch.





LEFT: *Cutting slits almost through the dough*

RIGHT: *Forming the log into a wreath, twisting each section outward*

PAIN AUX RAISINS

MAKES 40 PASTRIES

INGREDIENT	U.S.	METRIC
POACHED RAISINS		
Simple Syrup (page 1079)	2 lb	910 g
Rum	1 lb	450 g
Raisins	2 lb	910 g
Golden raisins	2 lb	910 g
PAIN AUX RAISINS		
Croissant Dough (page 248)	8 lb	3.63 kg
Pastry Cream (page 417)	2 lb	910 g
Poached Raisins (page 756), drained	1 lb	450 g
Egg Wash (page 1064)	3 oz	90 g
Apricot Glaze (page 492) or Buttermilk Glaze (page 761), warm	3 oz	90 g

1. For the poached raisins, bring the simple syrup and rum to a boil. Add the raisins and golden raisins, remove from the heat, and cover. Let sit at room temperature overnight, then reserve in the refrigerator.

2. Roll out dough into a rectangle 13 in/33 cm wide and ¼ in/0.6 cm thick. Let the dough relax in the refrigerator for 30 minutes, covered in plastic wrap, until firm to the touch.

3. Spread the pastry cream evenly on the surface of the dough, leaving a 1-in/3-cm border. Drain the poached raisins and sprinkle them on top of the pastry cream, distributing them evenly. Egg wash the border of the dough. Place both of your hands on either side of the dough and evenly roll the dough away from you and into the shape of a roulade.

4. With the end of the roll at the bottom of the rolled dough, cut 1-in/3-cm pieces and place on a parchment-lined sheet pan; place no more than 12 pieces per sheet pan.

5. Brush the pastries with egg wash. Proof at 82°F/28°C until doubled in size, about 2 hours.

6. Bake at 365°F/185°C until golden brown, 7 to 8 minutes. While the pastry is still hot, brush with the warm glaze to coat the surface.

VARIATION

Substitute poached and drained currants or cranberries, or chopped pecans or walnuts, for the raisins.

PUMPKIN FONTAINES

MAKES 40 PASTRIES

INGREDIENT	U.S.	METRIC
Danish Dough (page 249)	8 lb	3.63 kg
Egg Wash (page 1064)	3 oz	90 g
Cream Cheese Filling (page 1067)	2 lb	910 g
Pumpkin Butter (page 529)	2 lb	910 g
Apricot Glaze (page 429), warm	3 oz	90 g
Walnuts, toasted and chopped	8 oz	230 g

1. Roll out dough into a rectangle 12 in/30 cm wide and ¼ in/0.6 cm thick. Let the dough relax in the freezer for 30 minutes, covered in plastic wrap, until firm to the touch.

2. Using a wheel cutter and ruler (or a 4-in/10-cm stencil), cut forty 4-in/10-cm squares, about 3 oz/90 g each.

3. Using a 2-in/5-cm half-circle cutter, with the curve to the outside, cut completely through the dough on the left half of the square.

4. Brush the square with egg wash. Fold the left side of the square onto the right side, leaving the cut half circle lying flat on the pan.

5. Pipe a ring of a little less than ½ oz/14 g cream cheese filling onto the outside edge of each half circle. Then pipe a little less than ½ oz/14 g of the pumpkin butter into the center of the half circle. Brush the squares with egg wash.

6. Proof at 82°F/28°C until doubled in size, about 2 hours. Brush with egg wash again.

7. Bake at 365°F/185°C until golden brown, 7 to 8 minutes. While the pastry is still hot, brush with the warm glaze to coat completely. Sprinkle with the walnuts.

VARIATIONS

For Fig Danish, substitute Fig Butter (page 527) and roasted figs for the pumpkin butter. Pipe the fig butter in the center of the cream cheese and place one or two roasted figs on top of the fig butter before baking.

For Pumpkin Danish, omit the cream cheese filling and pumpkin butter. Cut the dough into 3½ by 5-in/8 by 13-cm rectangles and place them so that the short side faces you. Egg wash the top 1 in/3 cm dough. Place 3 by ½-in/8 by 1-cm rectangle of Pumpkin Quick Bread (page 273) on the lower half of the rectangle and roll the dough up. Place inside a 4-in/10-cm square aluminum or stainless-steel cube lined with parchment paper. Egg wash, proof, then egg wash again. Bake at 365°F/185°C until golden brown. Once cooled, top with a line of Spiced Mirror Glaze (page 491) and a few toasted pumpkin seeds.

YEAST DOUGHNUTS

MAKES 24 DOUGHNUTS

INGREDIENT	U.S.	METRIC
DOUGH		
Milk (60°–65°F)	1 lb 2 oz	510 g
Yeast, instant	½ oz	14 g
Eggs	4 oz	110 g
Sugar	2 oz	60 g
Bread flour	1 lb 4 oz	570
Pastry flour	12 oz	430 g
Baking powder	½ oz	14 g
Salt	1 tsp	6 g
Mace	½ tsp	1 g
Butter, soft	6 oz	170 g
CHOCOLATE GLAZE		
Butter	4 oz	110 g
Milk	4 oz	110 g
Light corn syrup	½ oz	14 g
Vanilla extract	2 tsp	10 mL
Semi-sweet chocolate, chopped	4 oz	110 g
Confectioner's sugar, sifted	9½ oz	270 g

1. For the dough: In the bowl of a mixer fitted with the dough hook attachment, add all ingredients except the butter, and mix on low speed until combined, about 30 seconds.

2. Slowly add the butter in small pieces, and mix on medium speed for about 8 minutes, until the dough is smooth and homogeneous, making sure to scrape and flip the dough about halfway through.

3. Place the dough in a large, lightly oiled bowl and let sit in a warm place for 30 minutes. Fold the dough and ferment for another 15 minutes.

4. Meanwhile, begin preheating a large pot with clean oil to 375°F/191°C.

5. Remove the dough from the bowl and give it a letter-fold. Return to the bowl, cover, and allow to rest for another 15 minutes.

6. On a lightly floured surface, roll the dough to ½ to ¾ in/1 to 2 cm thick and cut with a doughnut cutter or a round cutter, about 3 in/8 cm in diameter. Use a second, smaller cutter, about ½ in/1 cm, to cut a hole in the center (keep these to make donut holes).

7. Loosely cover the doughnuts with a lightly floured towel and bench rest for 10 minutes, until when touched, the dough springs back halfway.

8. Working in batches, place the doughnuts in the preheated oil until golden brown, about 1 minute on each side. Remove from the oil with a spider skimmer.

9. Allow the doughnuts to drain on a rack or paper towels.

10. To prepare the glaze, combine the butter, milk, corn syrup, and vanilla in a medium bowl set over a water bath, and heat until the butter has melted.

11. Remove the butter mixture from the heat and stir in the chocolate, until it is a ganache-like consistency.

12. Stir in the sifted confectioner's sugar until combined, and set aside to cool for about 10 minutes.

13. Dip the top of each doughnut into the glaze, letting the excess drip back into the bowl before placing on a rack to set.

BRIOCHE DOUGHNUTS

MAKES 2 LB 3¼ OZ/1 KG (ABOUT A DOZEN DOUGHNUTS)

INGREDIENT	U.S.	METRIC
Brioche dough (page 144)	2 lb 3¼ oz	1 kg
Peanut oil, for frying	As needed	As needed
Sugar	As needed	As needed

1. Roll the dough to ½ in/1 cm using either a sheeter or a rolling pin. Let the dough relax for 30 minutes in the refrigerator.

2. Using a 3½-in/9-cm doughnut cutter dipped in flour, cut out as many doughnuts as possible and place them on a sheet pan lined with parchment paper. For square doughnuts, use a 3-in/8-cm cutter.

3. Proof the dough at room temperature inside a large plastic bag for 2 hours or until doubled in size.

4. Set a fryer filled with peanut oil to 355°F/180°C. Fry four doughnuts at a time until golden brown, about 30 seconds on each side.

5. Once fried, toss the doughnuts in sugar as soon as they come out of the fryer to completely coat them (see Chef's Note). Serve immediately.

CHEF'S NOTES

The doughnuts may also be coated in Vanilla Sugar (page 1080), Passion Fruit Glaze (page 759), Maple Glaze (page 759), or Chocolate Glaze (page 759).

For Jelly Doughnuts, use a 3-in/8-cm ring cutter rather than a doughnut cutter. The doughnuts will take longer to fry and cook all the way through. Fill the doughnuts with 1 oz/30 g of the desired jelly. Doughnut centers may also be fried and eaten or used as a garnish for the doughnuts.

CAKE DOUGHNUTS

MAKES 16 DOUGHNUTS

INGREDIENT	U.S.	METRIC
DOUGH		
Sugar	8 oz	230 g
Salt	1 tsp	7 g
Butter	4 oz	110 g
Nutmeg	Pinch	Pinch
Eggs	5 oz	140 g
Milk	14 oz	400 g
Vanilla extract	1 tbsp	15 mL
Cake flour	1 lb 2 oz	510 g
Bread flour	1 lb	450 g
Baking powder	1½ oz	43 g
GLAZE		
Whole milk	3½ oz	100 g
Vanilla bean, split and scraped	2	2
Confectioner's sugar	1 lb 1½ oz	500 g
Light corn syrup (optional)	1 oz	30 g

1. In the bowl of a mixer fitted with the paddle attachment, cream the sugar, salt, butter, and nutmeg until fluffy and light in color, about 4 minutes, scraping frequently.

2. Add the eggs in two stages and blend well, scraping the bowl between additions.

3. Add the milk and vanilla and mix until incorporated.

4. In a separate bowl, sift together the flours and baking powder. Add to the milk mixture and beat until a smooth dough forms, about 1 minute.

5. Place the dough on a flour bench and form into an oblong. Cover and rest for 15 minutes.

6. Roll out the dough to about ⅜ in/1 cm thick, ensuring even thickness. (If the dough is too loose, lightly knead in additional bread flour as needed, up to 1½ oz/40 g.)

7. Cut out the doughnuts with a doughnut cutter or 3 in/8 cm ring cutter (with a smaller ½ in/1 cm cutter for the center hole). Cut as close as possible to minimize excess scrap dough. Scrap dough becomes tougher each time it is rolled. Allow the worked scrap dough to relax before rolling and cutting again.

8. Place the doughnuts on a floured (lightly dusted) pan, cover, and allow to relax 15 minutes before frying.

9. Meanwhile, prepare the glaze by heating the milk and vanilla in a small saucepan over low heat, until boiling. Pour the milk mixture into a medium bowl containing the confectioner's sugar and corn syrup, and whisk until smooth. Set aside.

10. Fry in heated frying fat at 360° to 375°F/182° to 191°C. Test the fat before frying. These doughnuts require 1 to 2 minutes of frying time on each side. The doughnuts dropped in first should be the first ones turned in order to maintain an even color.

11. Allow the doughnuts to drain before placing on a pan for finishing. They may be turned out gently on brown paper to absorb excess fat.

12. To finish the doughnuts, dip in glaze while still warm and place on a wire rack over parchment paper to set.

CHEF'S NOTE

To make buttermilk glaze, replace the whole milk with buttermilk in the glaze.

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INDIVIDUAL PASTRIES

Individual pastries, created from pastry doughs or batters with fillings, may be constructed as single portions or as a larger item, such as a cake, which is individually portioned and garnished. Individual pastries encompass a wide variety of baked goods, from very refined to rustic. Depending on the type of pastry, it may be appropriate for sale in a retail bakeshop, for service during breakfast or brunch, with coffee or tea, at receptions, or on a dessert menu.

TARTLETS

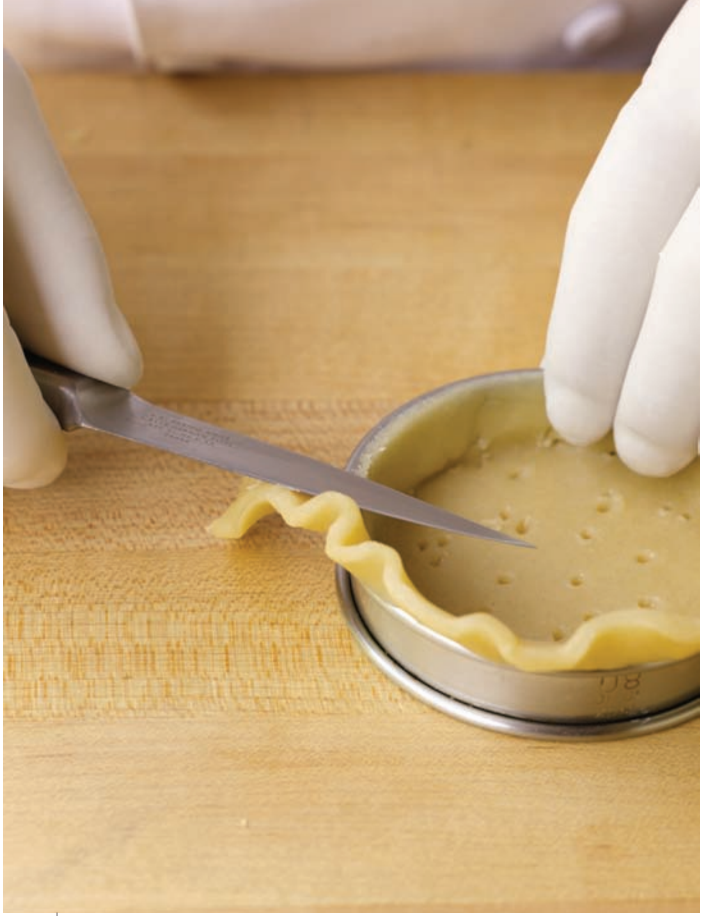
BY SCALING DOWN THE formulas for various pies and tarts, the pastry chef can prepare a number of individual pastries. Most of the tartlet formulas in this chapter (with the exception of those that are "free-form") were developed using a 3-in/8-cm ring mold or tartlet pan, but the formulas can be easily adapted to suit molds of other sizes or shapes. The same basic principles used for preparing large pies and tarts apply to tartlets. They can be baked in a mold, or free-form as a galette. They may be made using short dough or puff pastry dough. Depending on the type of filling, the shells may be partially or completely prebaked. Typically, shells are completely prebaked unless otherwise specified. They may be filled with fresh or poached fruits, nuts, chocolate ganache, or custard. Fillings may be precooked and poured into a baked shell or baked with the crust. Many fillings contain components that combine techniques. For example, one component of a filling could be a frangipane filling, which would be baked with the crust; then jam could be added in a thin, even layer; finally, the tart might be finished with fresh berries or other fruit and topped with a glaze. Combining elements in this way gives the pastry chef freedom to explore different flavor and textural profiles to create unique desserts.

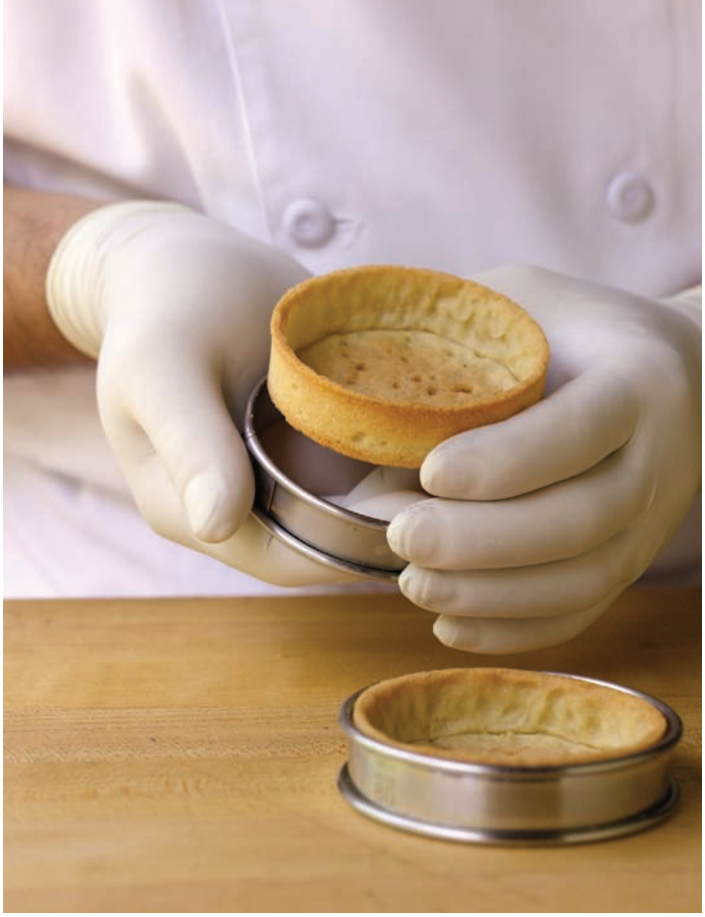
Prebaked tartlet shells should be left in the ring molds while they are filled, to support them during assembly and until the filling sets.

POACHED FRUITS

POACHED FRUITS MAY BE featured as a main component of a plated dessert, in fillings or toppings, or as garnish. Usually, fruits to be poached should be firm enough to hold their shape during cooking. Very tender fruits such as berries and bananas are generally not cooked using this technique. The greater the amount of sugar added to the poaching liquid, the more firm the end result will be. Using wine as part or all of the poaching liquid will have a similar effect. Poaching liquids that include some wine may be reduced and served as a sauce with the poached fruit or plated dessert. (See Appendix A for poaching liquid formulas.)

Prepare the fruit as necessary. In some cases, it may be desirable to remove the peel, core, and seeds or pits before poaching the fruit. Combine the fruit with the poaching liquid, often a mixture of simple syrup, spices, and occasionally wine, and bring to a bare simmer. Reduce the heat and gently poach the fruit until it is tender. Test the fruit by piercing it with a sharp knife. There should be little to no resistance. Allow the fruit to cool in the poaching liquid, if possible. Poached fruits may be stored overnight or served immediately.





FACING PAGE RIGHT: *Gently place the dough in the ring, making sure that the dough extends evenly all the way to the bottom of the ring.*

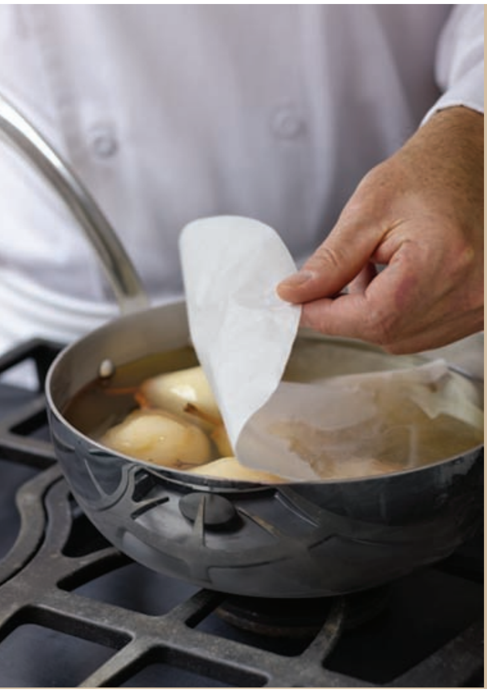
TOP LEFT: *Trim the excess dough from the top of the ring.*

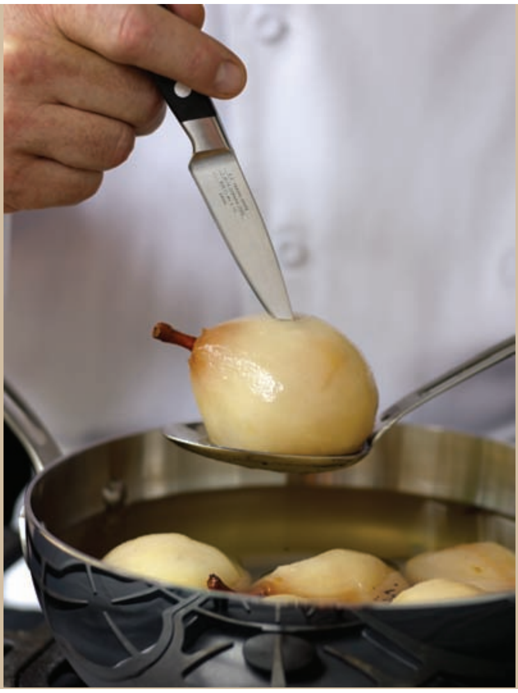
TOP RIGHT: *Unmolding a properly shaped and baked tart shell*

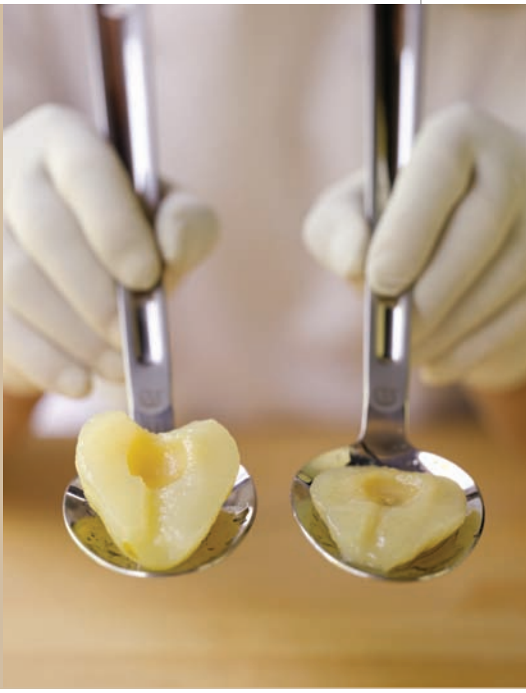
BOTTOM LEFT: *Placing a piece of parchment paper over the poaching fruits helps to keep the pears submerged in the poaching liquid.*

CENTER: *Piercing the fruit with a paring knife to test for doneness*

RIGHT: *Properly poached pear (left) and overpoached pear (right)*







LAYERED PASTRIES AND ROULADES

LAYERED INDIVIDUAL PASTRIES CAN be composed of various types of cake or pastry that are baked as sheets so they can be layered or rolled with a complementary filling. Properly assembled, the evenly filled, level layers make a dramatic and visually appealing pastry when sliced. A variety of icings, such as ganache, buttercream, whipped cream, fondant, or a clear glaze, may be applied to the assembled pastry. These large layered pastries can be cut into a variety of shapes, such as triangles or rectangles, to make individual portions. Assembling pastries in this manner results in very little loss or trim, making them an economical choice for production. Many traditional, classic, and contemporary cakes can be adapted with only minor modifications to suit this style of assembly.

Roulades are made from a sheet of cake that is flexible enough to be rolled without splitting. The cake is spread with an even layer of filling, then rolled, chilled, iced, and decorated. The roulade is then sliced into individual portions for service. Roulades are easy to prepare and can be made ahead and finished as needed.

PASTRIES FORMED IN MOLDS

YOU CAN USE A variety of small portion–size molds to shape such pastry components as mousse, Bavarian cream, and other stable creams. In most cases, gelatin is added to the cream to give it enough structure to hold its shape after it is unmolded. There are several styles and materials to choose from. One option is flexible molds made of silicone, produced in hemisphere, pyramid, and other shapes. Cups, bowls, and other small containers also work well.

Combine components in a variety of colors, flavors, and textures, as we have done here. To add texture, consider small cookies, ladyfingers, sponge, or fresh fruit. To add color, include a garnish of a contrasting color.

CONTAINERS

PASTRY CHEFS ARE OFTEN on the lookout for unusual and attractive containers for presenting and serving special pastries and other desserts. Glass containers have several appealing qualities.

Clear glass gives a pastry an immediate visual impact. Stemmed coupe glasses, hurricane glasses, and oversized martini glasses automatically give the pastry height. Natural and edible containers, including hollowed-out citrus fruits and containers such as puff pastry cases (known as *vol-au-vents* or *bouchées*), pâte à choux puffs, and tuile cups are all part of the classic pastry repertoire and can be other attractive choices.

PHYLLO DOUGH

PHYLLO DOUGH IS MADE only of flour and water (and occasionally a small amount of oil). The dough is stretched and rolled until it is extremely thin, then cut into sheets. Much as in a laminated dough such as puff pastry, the sheets are layered to create many flaky layers of pastry that encase or hold a filling, which may be anything from fruit to a mousse or cream. But instead of being rolled into the dough as it is for laminated doughs, the butter is melted and brushed onto the dough sheets before they are baked, as is done with strudel.

Many bakeshops purchase frozen phyllo dough sheets. This dough must thaw and come to room temperature before it can be worked with. Phyllo dough can dry out quickly and become brittle enough to shatter, so after it is removed from its wrapping, it is important to cover it with dampened towels and plastic wrap. Use a pastry brush to apply the butter in an even coat and then, if desired, sprinkle with cake or bread crumbs to keep the layers separate as they bake.

Brushing layers of phyllo dough with butter

PIPED PASTRIES

A VARIETY OF INDIVIDUAL pastries can be made using meringue or pâte à choux. Both of these elements are shaped by piping, then baked and filled. Meringues can be piped into containers, filled, and served, or piped into disks and assembled like a sandwich. The fillings paired with meringue are usually high in fat to contrast with the lean flavor and crisp mouthfeel of the meringue.

Pâte à choux can be piped into oblongs for éclairs, into rings for Paris-Brest, into domes for cream puffs, or into more intricate shapes, such as the classic swan. After baking, a filling is piped into the pâte à choux either by slicing it open or by using a small pastry tip to puncture the shell and inject the filling. Pastries of this type are typically glazed or dusted with confectioners' sugar to finish. It is important when preparing either type of shell (meringue or pâte à choux) that it be baked until dry and crisp and allowed to cool completely before filling.

Piping éclairs onto a sheet pan

APPLE GALETTES

MAKES 12 GALETTES

INGREDIENT	U.S.	METRIC
Currants	3 oz	90 g
Brandy	3 oz	90 g
Blitz Puff Pastry (page 247)	1 lb 8 oz	680 g
Apples	2 lb 8 oz	1.13 kg
Butter, melted	2 oz	60 g
Sugar	1 oz	30 g
Apricot Glaze (page 492), warm	As needed	As needed

TOP TO BOTTOM: *Bear Claws (page 746), Palmiers, (see page 247) turnovers, bouchées, Bear Claws, Palmiers*

1. Combine the currants and brandy in a small bowl and let stand until the currants are fully plumped (see "Dried Fruits," page 261).

2. Roll out the puff pastry ⅛ in/0.3 cm thick. Transfer to a parchment-lined sheet pan, cover, and let rest for 30 minutes under refrigeration.

3. Using a 4¼-in/11-cm cutter, cut 12 rounds from the puff pastry. Dock the pastry rounds.

4. Peel, halve, and core the apples. Cut into slices 1⁄16 in/0.15 cm thick.

5. Arrange the apple slices in concentric rings on the puff pastry rounds, working from the outside in and overlapping the slices slightly; they should stack up in the center to a height of approximately 1 in/3 cm. Drizzle the melted butter over the galettes and sprinkle with the sugar.

6. Bake at 375°F/191°C until the pastry is golden brown and dry on the bottom, about 50 minutes.

7. Transfer the galettes to a 425°F/218°C convection oven and bake until the edges of the apples are golden brown, about 2 minutes. Cool to room temperature.

8. Brush the tops of the galettes with the apricot glaze. Drain the currants and scatter over the galettes before the glaze sets.

TARTLET SHELLS

MAKES 12 TARTLET SHELLS

INGREDIENTS	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	1 lb 4 oz	570 g
Egg Wash (page 1064)	As needed	As needed

1. Roll out the dough ⅛ in/0.3 cm thick. Using a 4-in/10-cm cutter, cut 12 rounds.

2. Assemble the shells on a parchment-lined sheet pan if using rings. Fit the rounds into 3-in/7.5-cm tartlet rings or pans, pressing the dough into place against the sides of the rings or tartlet pans. Smooth and trim the top edges.

3. Place the shells under refrigeration or in the freezer until very firm. Line the shells with foil or parchment and fill with pie weights or dried beans.

4. Blind bake at 375°F/191°C until the shells have just begun to brown, about 20 minutes. (For more information on blind baking, see page 623.)

5. Remove the foil or parchment and weights. Lightly brush the pastry with egg wash. Bake until golden brown, about 10 minutes longer.

FRESH FRUIT TARTLETS

MAKES 12 TARTLETS

INGREDIENTS	U.S.	METRIC
Tartlet Shells (above)	1 lb 4 oz	570 g
Almond Filling (page 1066)	9 oz	260 g
Orange-flavored simple syrup (page 1079)	2 oz	60 g
Pastry Cream (page 417)	3 oz	90 g
Fresh fruit, peeled and cored as necessary, sliced	1 lb 8 oz	680 g
Apricot Glaze (page 492), warm	As needed	As needed

1. Roll out the dough ⅛ in/0.3 cm thick. Using a 4-in/10-cm cutter, cut 12 rounds. Place the rounds in 3-in/8-cm tart rings.

2. Dock the bottoms of the tartlet shells. Using a pastry bag fitted with a #5 plain tip, pipe the almond filling into the shells, filling them one-quarter of the way.

3. Bake at 375°F/191°C until the shells and filling are golden brown, about 30 minutes. Cool to room temperature.

4. Brush the almond filling with the simple syrup. Spread a thin coating of pastry cream in each tartlet shell. Arrange the fruit in the shells. Brush the fruit with the warm glaze.

BITTERSWEET CHOCOLATE ORANGE TARTLETS

MAKES 12 TARTLETS

INGREDIENTS	U.S.	METRIC
Heavy cream	6 oz	170 g
Sugar	2 oz	60 g
Orange zest, grated	1 tbsp	9 g
Egg yolks	6 oz	170 g
Dark chocolate, melted	3½ oz	100 g
Orange-flavored liqueur	1 oz	30 g
Tartlet Shells (page 770), prebaked	12	12
Apricot Glaze (page 492), warm	As needed	As needed
Candied Orange Peel (page 938)	2 oz	60 g

1. Combine the cream, 1 oz/30 g of the sugar, and the grated orange zest in a saucepan and bring to a boil. Remove from the heat, cover, and steep for 5 minutes.

2. Blend the egg yolks with the remaining 1 oz/30 g sugar to make the liaison. Temper by gradually adding about one-third of the hot cream mixture, whisking constantly. Add the remaining hot cream.

3. Add the melted chocolate and liqueur to the custard mixture, blending well. Strain the custard.

4. Divide the filling evenly among the tartlet shells, filling them to within ⅛ in/0.3 cm of the top.

5. Bake at 325°F/163°C just until the custard sets, about 15 minutes. Cool to room temperature.

6. Brush the tops of the tartlets with the warm glaze. Garnish each tartlet with a few strips of candied orange peel.

CITRUS TARTLETS

MAKES 12 TARTLETS

INGREDIENTS	U.S.	METRIC
Heavy cream	4 oz	110 g
Lemon juice	2 oz	60 g
Orange juice	1 oz	30 g
Lemon zest, grated	1 tsp	3 g
Sugar	4 oz	110 g
Eggs	4 oz	110 g
Egg yolks	2 oz	60 g
Tartlet Shells (page 770), prebaked	12	12
Sugar, for sprinkling	As needed	As needed
Chantilly Cream (page 482)	3 oz	90 g
Candied Lemon Peel (see Chef's Note, page 938)	1 oz	30 g

1. Combine the heavy cream, lemon juice, orange juice, lemon zest, and 3 oz/90 g of the sugar in a saucepan and heat, stirring to dissolve the sugar, until the mixture reaches 180°F/82°C.

2. Blend the eggs and egg yolks with the remaining 1 oz/30 g sugar to make the liaison. Temper by gradually adding about one-third of the hot cream, whisking constantly. Add the remaining hot cream. Strain.

3. Divide the filling evenly among the tartlet shells, filling them to within ⅛ in/0.3 cm of the top.

4. Bake at 300°F/149°C until the custard is just set, about 20 minutes. Cool to room temperature. Chill the tartlets until fully set.

5. Sprinkle a thin layer of sugar evenly on top of each tartlet. Caramelize the sugar using a blowtorch. Cool completely.

6. Using a pastry bag fitted with a #5 star tip, pipe a rosette of Chantilly cream onto each tartlet. Place several strips of candied lemon peel on each rosette.

PEAR CUSTARD TARTLETS

MAKES 12 TARTLETS

INGREDIENTS	U.S.	METRIC
Pears, fresh, peeled, halved, and cored	6	6
Tartlet Shells (page 770), prebaked (see Chef's Note)	12	12
Brûlée Sugar Blend (page 1069)	12 oz	340 g
Apricot Glaze (page 492), warm	As needed	As needed

1. Slice each pear half lengthwise into ¼-in/0.6-cm slices, keeping the pear half intact at the stem end. Place a sliced pear half in each of the tartlet shells and fan it slightly. Pour the crème brûlée mixture evenly over the fruit.

2. Bake at 325°F/163°C until the custard is set, about 20 minutes. Cool completely.

3. Unmold the tartlets and brush with the warm glaze.

CHEF'S NOTE

It is important to brush these shells particularly well with egg wash before prebaking.

LEMON CURD TARTLETS

MAKES 12 TARTLETS

INGREDIENTS	U.S.	METRIC
Lemon Curd (page 425), freshly prepared, warm	1 lb 2 oz	510 g
Tartlet Shells (page 770), prebaked	12	12
Swiss Meringue (page 476)	10 oz	280 g

1. Divide the warm lemon curd evenly among the tartlet shells. Chill for 1 hour, or until the curd sets.

2. Divide the meringue among the tartlets, mounding it on top. Smooth the meringue using a palette knife, then create a pattern of parallel lines across the tartlet.

3. Brown the meringue using a torch or under a salamander.

CHEF'S NOTE

The lemon curd can be cooled before filling the shells, but it will fill the shells more easily and create a smoother top if it used while still warm.

RASPBERRY CURD TARTLETS

MAKES 10 TARTLETS

INGREDIENTS	U.S.	METRIC
Gelatin, granulated	1½ tsp	7 g
Water	2 oz	60 g
Red food coloring	2 drops	2 drops
Orange-flavored liqueur	½ oz	14 g
Raspberry purée	14 oz	400 g
Eggs	5¼ oz	150 g
Egg yolks	4½ oz	130 g
Sugar	3½ oz	100 g
Butter, cut into ½-in/1-cm cubes	5¼ oz	150 g
Tartlet Shells (page 770), 6 in/15 cm in diameter, prebaked	10	10

1. Bloom the gelatin in the water and melt. Stir the food coloring into the liqueur.

2. Combine the raspberry purée, eggs, egg yolks, and sugar in a heavy-bottomed saucepan and bring to a boil, stirring frequently to dissolve the sugar.

3. Remove from the heat and whisk in the melted gelatin and the butter. Add the liqueur. Strain the curd through a fine-mesh strainer.

4. Carefully pour 2½ oz/70 g of the curd into each of the tartlet shells; the curd should come to the top of the shells.

5. Place the tartlets in the freezer for 2 hours.

6. Wrap the tartlets in plastic wrap and freeze until needed.

MARGARITA CHIFFON TARTLETS

MAKES 10 TARTLETS

INGREDIENTS	U.S.	METRIC
Water	7 oz	200 g
Cornstarch	¾ oz	20 g
Granulated sugar	8 oz	230 g
Egg yolks	3 oz	90 g
Lime juice	2 oz	60 g
Orange juice concentrate	1 oz	30 g
Tequila	3 oz	90 g
Gelatin, granulated	1½ tsp	7 g
Egg whites	4 oz	110 g
Tartlet Shells (page 770), prebaked	10	10
Simple Syrup (page 1079)	4 oz	110 g
Coarse sugar	10 oz	280 g

1. In a bowl, combine 3 oz/90 g of the water with the cornstarch to make a slurry. Add 2 oz/60 g of the granulated sugar and the egg yolks and whisk together thoroughly.

2. Combine 2 oz/60 g of the granulated sugar with the remaining 4 oz/110 g water in a saucepan and bring to a boil, stirring to dissolve the sugar and creating a hot syrup.

3. Temper the egg yolk mixture by gradually adding about one-third of the hot syrup, whisking constantly. Return the tempered egg yolk mixture to the hot syrup in the saucepan and continue cooking until the mixture comes to a boil, whisking constantly. Remove the mixture from the heat and strain through a fine mesh strainer. Keep the mixture warm but take care not to overcook the eggs.

4. Combine the lime juice, orange juice concentrate, and tequila.

5. Bloom and melt the gelatin using 2 oz/60 g of the juice mixture.

6. Whisk the melted gelatin and the remaining juice mixture into the warm egg mixture. Strain through a fine-mesh strainer.

7. Place the egg whites and remaining 4 oz/110 g of granulated sugar in a mixer bowl and whisk until thoroughly combined.

8. Place the bowl over a pot of barely simmering water and slowly whisk the mixture until it reaches 165°F/74°C.

9. Transfer the bowl to the mixer and whip with the whip attachment on high speed until stiff peaks form.

10. Gently fold one-third of the meringue into the citrus mixture, then fold in the remaining meringue.

11. Brush the rim of each tartlet shell lightly with simple syrup, and dip each rim in coarse sugar. Using a pastry bag fitted with a #6 plain tip, pipe 2 oz/60 g of the filling into each tartlet shell. Refrigerate the tartlets until fully chilled and set.

PECAN CRANBERRY TARTLETS

MAKES 12 TARTLETS

INGREDIENTS	U.S.	METRIC
Dark corn syrup	8 oz	230 g
Eggs	6 oz	170 g
Light brown sugar	4 oz	110 g
Butter	1¼ oz	40 g
All-purpose flour	½ oz	14 g
Pecan halves, toasted	6 oz	170 g
Cranberries, fresh or frozen	3 oz	90 g
Tartlet Shells (page 770), prebaked	12	12
Apricot Glaze (page 492), warm	As needed	As needed
Heavy cream, whipped	3 oz	90 g

1. Combine the corn syrup, eggs, sugar, and butter in a saucepan over medium heat. Warm the mixture until the sugar and butter are melted and all the ingredients are fully combined. Remove the pan from the heat. Stir in the flour. Strain the mixture through a fine-mesh strainer.

2. Divide the pecans and cranberries among the tartlet shells, spreading them in an even layer.

3. Pour the corn syrup mixture over the nuts and cranberries, filling the shells to within ⅛ in/0.3 cm of the top.

4. Bake at 325°F/163°C just until the filling is set, about 25 minutes. Cool to room temperature.

5. Brush the tops of the tarts with the warm glaze. Using a pastry bag fitted with a #5 star tip, pipe a rosette of whipped cream onto each tartlet.

PEAR FRANGIPANE TARTLETS

MAKES 12 TARTLETS

INGREDIENTS	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	1 lb 4 oz	570 g
Frangipane for Filling (page 1068)	9 oz	260 g
Poached Pears, small (page 1077), halved	12	12
Apricot Glaze (page 492), warm	As needed	As needed
Sliced almonds, toasted and chopped	3 oz	90 g

1. Roll out the dough ⅛ in/0.3 cm thick. Using a 4-in/10-cm cutter, cut 12 rounds. Place the rounds in 3-in/8-cm tartlet rings. Dock the bottoms of the tartlet shells.

2. Using a pastry bag fitted with a #5 plain tip, pipe the frangipane into the shells, filling them halfway. Slice the pears and fan them on top of the frangipane.

3. Bake at 375°F/191°C until the shells and filling are golden brown, about 45 minutes. Cool to room temperature.

4. Brush the tops of the tartlets with the warm glaze. Arrange a thin border of almonds around the edge of each tartlet.

PINEAPPLE TARTE TATIN

MAKES 10 TARTLETS

INGREDIENTS	U.S.	METRIC
Sugar	1 lb 6 oz	620 g
Light corn syrup	4 oz	110 g
Butter	8 oz	230 g
Water	2 oz	60 g
Pineapple	2	2
Pâte Brisée (page 231)	1 lb 11 oz	770 g

1. Combine the sugar and corn syrup in a heavy-bottomed saucepan and bring to a boil over high heat, stirring to dissolve the sugar. Cook covered for 1 minute.

2. Remove the cover, reduce the heat to medium, and cook the caramel to a rich golden brown. Add the butter and water and stir until fully incorporated.

3. Divide the caramel evenly among ten 4¾-in/12-cm tartlet pans.

4. Peel and core the pineapple. Cut into ½-in/1-cm cubes. Place 3 oz/90 g diced pineapple on top of the caramel in each tartlet pan.

5. Roll the pâte brisée out ⅟₁₆ in/0.15 cm thick. Using a 4¾-in/12-cm fluted cutter, cut 10 rounds.

6. Place a round of pâte brisée on top of each tartlet. The pâte brisée should be flush with the edges of the tartlet pan.

7. Bake at 375°F/191°C until the pastry is golden brown, about 15 minutes. Cool slightly in the pans. Invert on a serving plate to unmold.

FRUIT STRIP TARTLETS

MAKES 12 PASTRIES

INGREDIENTS	U.S.	METRIC
Butter Puff Pastry Dough (page 244)	6 oz	170 g
Egg Wash (page 1064)	As needed	As needed
Pastry Cream (page 417)	6 oz	170 g
Assorted fruit, peeled, trimmed and cut as necessary	8 oz	230 g
Apricot Glaze (page 492), warm	As needed	As needed

1. Roll the puff pastry dough into a rectangle 4 by 16 in/10 by 41 cm. Transfer to a parchment-lined sheet pan, cover, and let rest under refrigeration for 30 minutes or more.

2. Remove the dough from the sheet pan and cut it lengthwise into one strip 3 in/8 cm wide and two strips ½ in/1 cm wide.

3. Place the 3-in/8-cm-wide strip on a parchment-lined sheet pan, dock, and brush with egg wash. Lay the ½-in/1-cm-wide strips on top of the edges of the larger strip and brush them with egg wash.

4. Bake at 375°F/191°C until the pastry has risen and begun to brown, about 30 minutes. Turn the oven down to 325°F/163°C and bake until golden brown, about 20 minutes more. Cool to room temperature.

5. Cut most of the pastry out of the center of the strip, if necessary, leaving only a thin bottom layer. Using a pastry bag fitted with a medium-size plain tip, pipe the pastry cream evenly into the center of the strip. Arrange the fruit on top of the pastry cream. Brush the fruit with the warm glaze and allow to set.

6. Using a serrated knife, cut the strip into 12 even portions.

Strawberry Fruit Strip

PECAN PASSIONS

MAKES 12 TARTLETS

INGREDIENTS	U.S.	METRIC
Chocolate Short Dough (page 235)	12 oz	340 g
Soft Caramel Filling (page 534)	12 oz	340 g
Pecans, toasted and chopped	6 oz	170 g
Soft Ganache (page 483)	8 oz	230 g
Heavy cream	10 oz	280 g

1. Roll out the dough into a rectangle 10 by 14 in/25 by 36 cm.

2. Lay the rectangle of dough carefully over twelve 3-in/8-cm tartlet pans that have been arranged closely together. Gently press the dough into the pans. Run a rolling pin across the top edge to cut away the excess.

3. Blind bake the shells at 375°F/191°C until fully baked, about 15 minutes. (For instructions on blind baking, see page 623.) Cool completely.

4. Divide half of the caramel filling evenly among the tartlet shells. Scatter half of the pecans over the caramel.

5. Whip the ganache with 4 oz/110 g of the cream with the whip attachment on high speed to a mousse-like consistency. Using a palette knife, spread a layer of whipped ganache into each shell. Freeze the tartlets until the filling is firm.

6. Divide the remaining caramel filling among the tartlets, spreading it over the ganache in a thin layer. Scatter the remaining pecans over the top. Whip the remaining cream to medium peaks. Using a pastry bag fitted with a #5 star tip, pipe a rosette of whipped cream on top of each tartlet.

VICTORIAS

MAKES 36 PASTRIES

INGREDIENTS	U.S.	METRIC
Butter Puff Pastry Dough (page 244)	2 lb	910 g
Egg Wash (page 1064)	As needed	As needed
Pâte à Choux (page 240)	2 lb 8 oz	1.13 kg
Sliced almonds	4 oz	110 g
Rum	As needed	As needed
Heavy cream, whipped	3 lb	1.36 kg
Pastry Cream (page 417)	2 lb 4 oz	1.02 kg
Strawberries	1 lb 4 oz	570 g
Confectioners' sugar, for dusting	As needed	As needed

1. Roll out the puff pastry 1⁄16-in/0.15-cm thick. Transfer to a parchment-lined sheet pan, cover, and allow to rest under refrigeration for 1 hour.

2. Dock the pastry. Using a 4-in/10-cm cutter, cut 36 rounds. Fit them into individual brioche molds. Trim the excess dough from the tops of the molds.

3. Brush the inside of the shells lightly with egg wash. Using a pastry bag fitted with a #5 plain tip, pipe the pâte à choux into each shell, filling them one-third full. Using a small palette knife, spread the pâte à choux so it reaches up the sides to the top of the molds, making the surface concave. Toss the almonds with just enough rum to moisten and sprinkle over the pate à choux.

4. Bake at 375°F/191°C until the puff pastry is dry and the pâte à choux is golden brown, about 50 minutes. Cool completely.

5. Unmold the pastries. Using a serrated knife, slice the tops from the finished shells; reserve the tops.

6. Fold half of the whipped cream into the pastry cream. Fill the shells two-thirds full with the pastry cream. Arrange the berries on the cream.

7. Using a pastry bag fitted with a #5 star tip, pipe the remaining whipped cream on top of the berries. Place the reserved pastry tops on the whipped cream and dust with confectioners' sugar.

CLASSIC NAPOLEONS

MAKES 16 NAPOLEONS (2 BY 3¼ BY 1½IN/5 BY 8 BY 4 CM EACH)

INGREDIENTS	U.S.	METRIC
Butter Puff Pastry Dough (page 244)	1 lb 5½ oz	610 g
Diplomat Cream (page 452)	2 lb 2¼ oz	970 g
Apricot Glaze (page 492), warm	As needed	As needed
Fondant	8 oz	230 g
Simple Syrup (page 1079)	2 oz	60 g
Bittersweet chocolate, melted	2 oz	60 g

Puff pastry for napoleons and other pastries must be weighted during baking to ensure flat, even layers.

1. Roll the puff pastry to a rectangle 16½ by 24½ in/42 by 62 cm and ⅛ in/0.3 cm thick. Place the puff pastry on a parchment-lined sheet pan and allow it to rest under refrigeration for at least 1 hour.

2. Dock the puff pastry generously. Place a piece of parchment paper on top of the puff pastry dough. Place a sheet pan on top of the parchment paper to control the rise of the pastry.

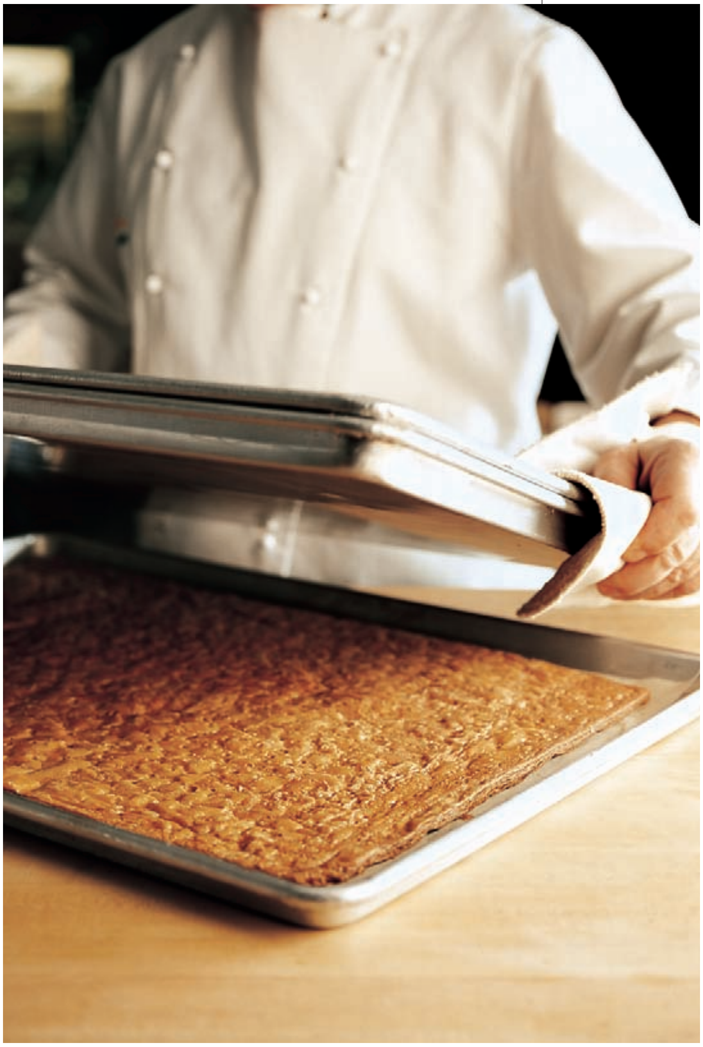
3. Bake at 375°F/191°C for 20 minutes. Rotate the pan and continue to bake until the pastry is golden brown and dry throughout, 7 to 10 minutes more. If necessary, remove the sheet pan and parchment from the top of the puff pastry during the final 10 minutes of baking to allow the puff pastry to brown. Cool the puff pastry to room temperature.

4. Trim the edges of the puff pastry using a long, flat, serrated knife. Cut the puff pastry into three strips, each 6½ by 16 in/17 by 41 cm.

5. Spread half of the diplomat cream with a medium offset spatula in a smooth, even layer on one of the puff pastry strips.

6. Gently place the second puff pastry strip on top of the diplomat cream. Spread the remaining diplomat cream on top of the puff pastry strip in a smooth, even layer. Place the final puff pastry strip upside down on top of the diplomat cream. Smooth the sides of the napoleon with an offset spatula to remove any excess diplomat cream.

7. Wrap the napoleon and freeze overnight.



8. To finish, allow the napoleon to thaw for 10 to 15 minutes. Brush the apricot glaze in a thin, even layer on top.

9. Gently warm the fondant over barely simmering water to 100°F/38°C. Thin the fondant with the simple syrup until it is fluid and only slightly viscous. Pour on top of the napoleon in the center of the puff pastry and spread in a thin, even layer over the entire surface.

10. Pour the melted chocolate into a parchment paper cone with a very thin tip. Pipe thin lines of chocolate lengthwise along the fondant, ¼ in/0.6 cm apart. The chocolate lines may be piped closer together to create a more finely marbled look.

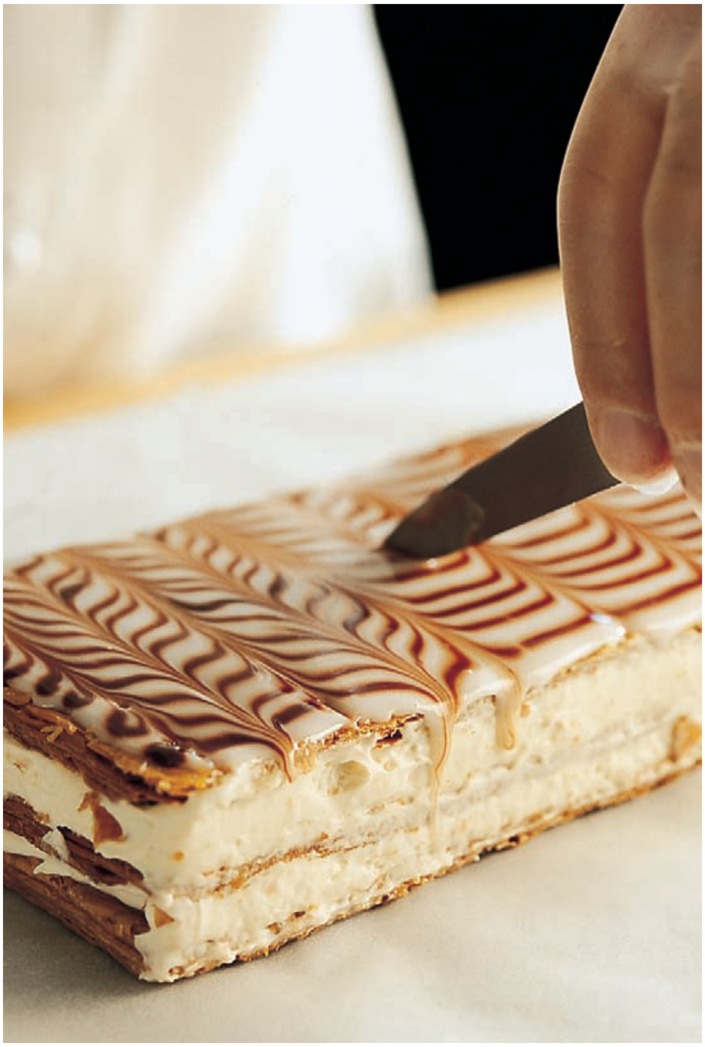
11. Drag the tip of a paring knife widthwise across the chocolate lines in alternating directions, ¼ in/0.6 cm apart. Allow the fondant to set completely before slicing.

12. Fill a large bain-marie with hot water. Using a long serrated knife warmed in the hot water, trim the edges of the napoleon.

13. Slice the napoleon in half lengthwise. Using a warm serrated knife, slice each napoleon strip into 8 pieces. Clean the knife in between each cut.

LEFT: *Layering puff pastry sheets and diplomat cream to make classic napoleons*

RIGHT: *Dragging the tip of a paring knife across the chocolate lines in alternating directions to create the décor for napoleons*



MOCHA MOUSSE SLICES

MAKES 45 SLICES (1 BY 3 IN/3 BY 8 CM EACH)

INGREDIENTS	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	1 lb 4 oz	570 g
Mocha Mousse (page 445)	5 lb 5 oz	2.41 kg
Chocolate Sponge sheet (page 288), 11½ by 16½ in/29 by 42 cm	1	1
Coffee Simple Syrup (page 1079)	4 oz	110 g
Ultrashiny Chocolate Glaze (page 490)	1 lb 4 oz	570 g
Heavy cream, whipped	12 oz	340 g
Marzipan coffee beans or chocolate-covered espresso beans	45	45

1. Roll out the dough to a rectangle 13 by 17 in/33 by 43 cm. Trim to precisely 12 by 16 in/30 by 41 cm. Dock the dough.

2. Bake at 375°F/191°C until light golden brown, about 25 minutes. Allow to cool completely.

3. Place a rectangular frame or mold 12 by 16 in/30 by 41 cm with sides 2 in/5 cm high around the baked cookie. Ladle half of the mousse onto the baked cookie dough and spread it evenly. Place the sponge on the mousse and press down lightly. Brush the sponge generously with the syrup. Ladle the remaining mousse over the sponge, filling the mold to the top, and spread it evenly.

4. Freeze the assembled mold until the mousse is firm enough to cut.

5. Pour the chocolate glaze evenly over the top of the frozen mousse. Allow the glaze to set.

6. Remove the frame and trim the edges of the assembled slab. Slice it crosswise into strips 3 in/8 cm wide, then cut each strip into pieces 1¼ in/3 cm wide.

7. Using a pastry bag fitted with a #5 plain tip, pipe a small dome of whipped cream on one end of the top of each slice. Place a coffee bean on each dome. Refrigerate until ready to serve.

CHOCOLATE ROULADE SLICES

MAKES 24 SLICES

INGREDIENTS	U.S.	METRIC
Soft Ganache (page 483)	10 oz	280 g
Heavy cream	6 oz	170 g
Roulade (page 295), 16½ by 24½ in/42 by 62 cm	1	1
Confectioners' sugar, for dusting	As needed	As needed

1. Combine the ganache and cream and whip with the whip attachment on high speed until medium-stiff peaks form.

2. Spread the ganache mixture evenly over the roulade sheet.

3. Cut the sheet in half to create two rectangles, each 12 by 16 in/30 by 41 cm. Roll up each roulade tightly, creating two logs, 12 in/30 cm long each.

4. Chill the roulades for 30 minutes, or until the ganache is set.

5. Lay a strip of parchment paper ¾ in/2 cm wide over the middle of the length of each roulade and dust the roulade with confectioners' sugar. Remove the strip.

6. Slice each roulade into 12 portions.

Using parchment paper to roll the roulade

FRANGIPANE TRIANGLE SLICES

MAKES 12 SLICES

INGREDIENTS	U.S.	METRIC
Frangipane Cake (page 728)	1 half sheet pan	1 half sheet pan
Bittersweet chocolate, melted	3 oz	90 g
Italian Buttercream (page 480)	1 lb	450 g
Hard Ganache (page 484), melted	12 oz	340 g

1. Trim the edges from the frangipane cake and cut lengthwise into three strips, 3 by 16 in/8 by 41 cm each.

2. Blend the melted chocolate into the buttercream. Spread 3 oz/90 g of the buttercream onto one strip of frangipane. Place a second strip on top of the buttercream and spread with 3 oz/90 g buttercream. Place the third strip of frangipane on top.

3. Refrigerate the strip until the buttercream is firm, at least 1 hour.

4. Cut the assembled strip lengthwise in half on the diagonal to create two triangular strips. Spread 4 oz/110 g of the buttercream onto the solid frangipane side of one of the triangular strips, and place the solid frangipane side of the other strip against the buttercream, pressing to adhere, creating a triangular, vertically layered cake.

5. Chill the assembled strip until the buttercream has set.

6. Seal the outside of the strip with the remaining buttercream. Chill until set, about 1 hour.

7. Place the strip on a wire rack set in a sheet pan. Glaze the strip with the ganache, spreading it along the sides to completely cover as you ladle the glaze. Chill until set, about 1 hour.

8. Slice the strip into 12 portions.

MANGO RASPBERRY SLICES

MAKES 12 SLICES

INGREDIENTS	U.S.	METRIC
Vanilla Sponge sheet (page 288), 11½ by 16½ in/29 by 42 cm	1	1
Raspberry jam	4 oz	110 g
Patterned Joconde Sponge rectangle (page 308), 9 by 16 in/23 by 41 cm	1	1
Mango Mousse (page 428)	3 lb	1.36 kg
Patterned Joconde Sponge strip (page 308), 4¼ by 16 in/11 by 41 cm	1	1

1. Cut the vanilla sponge crosswise into 3 strips. Spread the jam evenly over one strip and roll up, starting from a long side. Reserve the remaining vanilla sponge strips for future use.

2. Line a 12-in/30-cm triangular terrine mold with plastic wrap.

3. Place the larger rectangle of Joconde sponge in the mold so that the sides are flush with the edges of the mold. Pour half of the mousse into the mold.

4. Lay the roulade in the center of the mousse. Pour the remaining mousse into the mold to within ¼ in/0.6 cm of the top.

5. Lay the strip of Joconde sponge on the mousse, lining it up so that the edges are flush with the edges of the other sponge.

6. Cover and refrigerate overnight.

7. Unmold and slice into 12 portions.

PRALINE SLICES

MAKES 12 SLICES

INGREDIENTS	U.S.	METRIC
Hazelnut Sponge sheet (page 300), 11½ by 16½ in/29 by 42 cm	1	1
Italian Buttercream (page 480)	1 lb 4 oz	570 g
Praline paste	2 oz	60 g
Rum-flavored simple syrup (see "Liquor-Flavored Simple Syrup," page 1079)	3 oz	90 g
Hazelnuts, toasted and finely ground	3 oz	90 g
Hazelnut Dragées (page 935)	12	12

1. Trim the hazelnut sponge and slice lengthwise into 3 strips, 3 by 16 in/8 by 41 cm each.

2. Combine the buttercream with the praline paste and mix until smooth.

3. Moisten one of the sponge strips with one-third of the syrup, and spread 4 oz/110 g of the buttercream mixture over it. Place a second strip on top of the buttercream, moisten with another one-third of the syrup, and spread 4 oz/110 g of the buttercream over it. Top with the final strip of sponge and moisten with the remaining syrup.

4. Chill the assembled strip until the buttercream is set, about 1 hour.

5. Trim the sides of the assembled strip. Coat the top and sides with 10 oz/280 g of the remaining buttercream, reserving 4 oz/110 g for décor. Mark into 12 portions. Using a pastry bag fitted with a #3 star tip, pipe a rosette of buttercream off center on each slice.

6. Press the ground hazelnuts onto the iced sides of each slice to completely cover the bottom half of each side. Garnish each slice by placing a hazelnut dragée on the buttercream rosette.

RASPBERRY MARZIPAN SLICES

MAKES 12 SLICES

INGREDIENTS	U.S.	METRIC
Vanilla Sponge sheet (page 288), 11½ by 16½ in/29 by 42 cm	1	1
Framboise-flavored simple syrup (see "Liqueur-Flavored Simple Syrup," page 1079)	3 oz	90 g
Raspberry jam	1 oz	30 g
Italian Buttercream (page 480)	12 oz	340 g
Marzipan for Modeling and Cake Covering (page 1020), colored pale pink	1 lb	450 g
Tempered chocolate (see page 904), for garnish	As needed	As needed

1. Trim the vanilla sponge and slice lengthwise into 3 strips, 3 by 16 in/8 by 41 cm each.

2. Moisten one of the sponge strips with one-third of the syrup. Spread with half of the jam, then with 3 oz/90 g of the buttercream. Place a second strip on top of the buttercream. Moisten with one-third of the syrup and spread with the remaining jam, then with 3 oz/90 g of the buttercream. Top with the final strip of sponge and moisten with the remaining syrup. Wrap the strip in plastic wrap.

3. Place the assembled strip on a parchment-lined sheet pan and place another piece of parchment paper on top of the strip. Weight by placing a second sheet pan on top of the strip and a heavy pan or two 1-lb/450-g weights on top, and refrigerate overnight.

4. Remove the plastic wrap. Coat the top and sides of the strip with the remaining buttercream.

5. Roll the marzipan into a rectangle large enough to drape over the strip that is ¹⁄₁₆ in/0.15 cm thick. Texture the rolled marzipan with a textured rolling pin.

6. Drape the marzipan over the strip and gently press to remove all wrinkles and to attach it to the strip. Trim the excess from the bottom edges.

7. Mark the strip into twelve portions. Garnish each piece with tempered chocolate by piping a stylish letter R or filigree using a parchment cone.

8. Chill until firm enough to slice, about 1 hour.

RASPBERRY WINE CREAM SLICES

MAKES 45 SLICES (1 BY 3 IN/3 BY 8 CM EACH)

INGREDIENTS	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	1 lb 4 oz	570 g
Raspberry jam	4 oz	110 g
Vanilla Sponge sheet (page 288), 12 by 16 in/30 by 41 cm	1	1
Raspberry-flavored simple syrup	4 oz	110 g
Wine Bavarian Cream (page 450)	4 lb 14 oz	2.21 kg
Raspberry Mirror Glaze (see Variation, page 494)	1 lb	450 g
Heavy cream, whipped	12 oz	340 g
Chocolate Cigarettes (see page 987)	45	45

1. Roll the cookie dough into a rectangle 13 by 17 in/33 by 43 cm. Trim to precisely 12 by 16 in/30 by 41 cm. Dock the dough.

2. Bake at 375°F/191°C until light golden brown, about 25 minutes. Cool completely.

3. Spread the raspberry jam onto the baked cookie. Place a frame (12 by 16 by 1¾ in/30 by 41 by 4 cm) around it. Place the vanilla sponge on the jam and press down gently. Moisten the sponge with the syrup. Pour the wine cream into the frame, filling it to the top, and spread it evenly. Freeze the assembled frame until the wine cream is set.

4. Pour the glaze over the frozen wine cream to coat it. Allow the glaze to set.

5. Remove the frame and trim the edges of the assembled strip. Slice into 45 portions. Using a pastry bag fitted with a #5 star tip, pipe a domed rosette of whipped cream slightly off center on top of each slice. Place a chocolate cigarette on each slice, resting one end on the whipped cream rosette. Refrigerate until ready to serve.

CHOCOLATE CARAMEL BOMBES

MAKES 24 BOMBES

INGREDIENTS	U.S.	METRIC
Chocolate Sponge sheet (page 288)	1	1
Chocolate Mousse (page 430)	2 lb 8 oz	1.13 kg
Soft Caramel Filling II (page 579)	12 oz	340 g
Simple Syrup (page 1079)	4 oz	110 g
Ultrashiny Chocolate Glaze (page 490)	2 lb 4 oz	1.02 kg
1-2-3 Cookie Dough (page 233), cut into 3¼-in/8-cm fluted rounds, baked	24	24
Striped Chocolate Cigarettes (page 988)	24	24

1. Using a 2-in/5-cm cutter, cut 24 rounds from the chocolate sponge.

2. Using a pastry bag fitted with a #5 plain tip, pipe the chocolate mousse into twenty-four 3-in/8-cm hemispherical flexible silicone molds, filling them two-thirds full.

3. Using a pastry bag fitted with a #5 plain tip, pipe ½ oz/14 g of the caramel filling into the center of each chocolate bombe. Be careful not to pipe the caramel filling too far down into the mousse, or it may leach through the mousse and show when unmolded.

4. Place a sponge round on top of each mousse and gently press to bring the cake flush with the top of the mold. Brush each sponge lightly with the syrup.

5. Freeze the bombes until they are solid.

6. Unmold the bombes and place them dome side up on a wire rack set over a sheet pan. Ladle the chocolate glaze over each bombe to coat completely. Let stand until the glaze sets.

7. Place each bombe on a fluted cookie. Garnish each with a chocolate cigarette.

CHOCOLATE MOUSSE BOMBES

MAKES 24 BOMBES

INGREDIENTS	U.S.	METRIC
Vanilla Sauce (page 497), warm	8 oz	230 g
Hard Ganache (page 484), melted	8 oz	230 g
Gelatin, granulated	½ oz	14 g
Water	4 oz	110 g
Egg whites, pasteurized	2 oz	60 g
Sugar	2 oz	60 g
Heavy cream, whipped to very soft peaks	1 lb	450 g
Ultrashiny Chocolate Glaze (page 490)	2 lb 4 oz	1.02 kg
1-2-3 Cookie Dough (page 233), cut into 3¼-in/8-cm fluted rounds, baked	24	24
Dark chocolate fans (see page 989)	24	24

1. Combine the vanilla sauce with the melted ganache.

2. Bloom and melt the gelatin in the water. Blend the gelatin into the vanilla sauce mixture. Set aside.

3. Beat the egg whites until frothy. Slowly add the sugar and whip to a stiff-peak meringue.

4. Stir the vanilla sauce mixture over an ice water bath just until it begins to thicken. Fold in the meringue. Fold in the whipped cream.

5. Using a pastry bag fitted with a #5 plain tip, immediately pipe the mixture into twenty-four 3-in/8-cm hemispherical flexible silicone molds.

6. Freeze the bombes until solid.

7. Unmold the bombes and place them, dome side up, on a wire rack set over a sheet pan. Warm the glaze to a pourable consistency and ladle over each bombe to coat completely. Let stand until the glaze sets.

8. Place each bombe on a fluted cookie. Gently press a chocolate fan to the side of each bombe to adhere.

CHOCOLATE PEANUT BUTTER BOMBES

MAKES 10 BOMBES

INGREDIENTS	U.S.	METRIC
Devil's Food Cake sheet (page 285), 11½ by 16½ in/29 by 42 cm	1	1
Peanut butter, creamy	10 oz	280 g
Milk Chocolate Bavarian Cream (page 450)	2 lb 8 oz	1.13 kg
Chocolate Short Dough (page 235)	1 lb	450 g
Ultrashiny Chocolate Glaze (page 490)	1 lb 4 oz	570 g

1. Using a 2-in/5-cm cutter, cut 10 rounds from the devil's food cake.

2. Using a pastry bag fitted with a #6 plain tip, pipe 1 oz/30 g of peanut butter onto each round of cake.

3. Using a #5 plain tip, pipe 4 oz/110 g of the Bavarian cream into each of ten 3-in/8-cm hemispherical flexible silicone molds, filling them to within ½ in/1 cm of the top. Flip a cake round upside down onto each mold and push the peanut butter into the mousse; push down until the cake is flush with the top of the mold.

4. Level the top of each bombe by scraping off any excess cream. Freeze the bombes for 8 hours, or until firm.

5. Roll out the short dough ⅛ in/0.3 cm thick. Using a 3¼-in/8-cm fluted cutter, cut 10 rounds from the dough.

6. Bake the rounds in a 350°F/177°C deck oven until golden brown, 8 to 10 minutes. Cool.

7. Warm the glaze to 120°F/49°C.

8. Unmold the bombes and flip them upside down onto a wire rack set over a parchment-lined sheet pan. Enrobe each bombe with 2 oz/60 g of the glaze.

9. Place each bombe on a cookie base. Place the bombes in the refrigerator to set the glaze.

LEMON BOMBES WITH MACERATED RASPBERRIES

MAKES 24 BOMBES

INGREDIENTS	U.S.	METRIC
Raspberries (fresh or frozen)	6 oz	170 g
Orange-flavored liqueur	4 oz	110 g
Vanilla Sponge sheet (page 288)	1	1
Lemon Mousse (page 647)	2 lb 4 oz	1.02 kg
Apricot Glaze (page 492), warm	4 lb 8 oz	2.04 kg
1-2-3 Cookie Dough (page 233), cut into 3¼-in/8-cm fluted rounds, baked	24	24
Chocolate Fans (see page 989)	24	24

1. Combine the raspberries with the liqueur and allow to macerate for 1 hour or longer.

2. Using a 2-in/5-cm cutter, cut 24 rounds from the vanilla sponge.

3. Using a pastry bag fitted with a #5 plain tip, pipe the lemon mousse into twenty-four 3-in/8-cm hemispherical flexible silicone molds, filling them two-thirds full.

4. Remove the raspberries from the liqueur, reserving the liqueur, and dry them on a towel. Place 3 or 4 berries in each mold, pressing them lightly into the mousse. Be careful not to press them in too far, or they will show when the bombes are unmolded.

5. Place a sponge round on top of each bombe and press gently into the mousse to bring the level of the mousse up to the top of the molds. Brush each sponge lightly with the reserved liqueur.

6. Freeze the bombes until firm.

7. Unmold the bombes and place them, dome side up, on a wire rack set over a sheet pan. Glaze with the apricot glaze, using a fondant dropper or ladle. Let the glaze set.

8. Place each bombe on a fluted cookie. Garnish each with a chocolate fan.

SUMMER PUDDING

MAKES 10 SERVINGS

INGREDIENT	U.S.	METRIC
Butter, soft	4 oz	110 g
Brioche Loaf dough (page 144)	2 lb	910 g
Egg Wash (page 1064)	2 oz	60 g
Strawberries, diced	12 oz	340 g
Sugar	8 oz	230 g
Crème de cassis	6 oz	170 g
Lemon juice	1 oz	30 g
Raspberries	11 oz	310 g
Blueberries	11 oz	310 g
Blackberries, quartered	11 oz	310 g

1. Brush each of 2 cylindrical molds, 6¾ in/17 cm in diameter and 8 in/20 cm tall, with 2 oz/60 g of the softened butter.

2. Divide the brioche dough into two 1-lb/450-g pieces. Round each into a ball and place in the prepared molds.

3. Proof the dough, covered, at room temperature until it springs back lightly to the touch, 45 minutes to 1 hour; there should be a small indentation left in the dough, but it should not collapse. Brush the dough lightly with egg wash.

4. Bake in a 325°F/163°C deck oven until the brioche is dark golden brown on top and golden brown in the center cracks, about 45 minutes. Toward the end of baking, if the brioche is a deep brown but requires a little additional baking time, it may be necessary to remove the brioche from the molds and dry it out slightly in the oven. Cool to room temperature.

5. Unmold the brioche and slice crosswise into rounds ⅜-in/1-cm thick. Using a 2½-in/6-cm round cutter, cut 30 disks out of the brioche slices.

6. Cut the strawberries in halves or quarters, depending on size, for uniform pieces.

7. Combine the sugar, crème de cassis, and lemon juice in a large pot and bring to a boil. Reduce the heat to a low simmer, add the strawberries, and poach just until they begin to release their juices. Add the remaining fruit and poach until they are tender. (This will only take a few minutes, depending on the ripeness of the berries.) Remove from the heat.

8. Place 1 brioche disk in the bottom of each of ten soufflé cups (4 fl oz/120 mL each). Place 1 oz/30 g of fruit on each brioche disk and top with another brioche disk. Place another 1 oz/30 g of fruit on each one, and place the remaining brioche disks on top. Drizzle 1 oz/30 g of poaching liquid over each pudding.

9. Cover the puddings with a sheet of parchment paper and place a sheet pan on top. Weight down the sheet pan with a heavy pan or two 1-lb/450-g weights. Refrigerate overnight.

10. Carefully unmold the puddings, if desired. Serve chilled.

PHYLLO CUPS

MAKES 12 CUPS

INGREDIENT	U.S.	METRIC
Phyllo dough sheets, 4-in/10-cm square	48	48
Butter, melted	As needed	As needed

1. Lay out 12 phyllo squares on the work surface. Brush each with melted butter, and top with a second phyllo square. Repeat this process two more times, rotating the square of phyllo slightly each time so that the corners do not align.

2. Place one stack of phyllo in each of 12 ramekins (6 fl oz/180 mL each) or other ovenproof containers, pressing them to the bottom and sides.

3. Bake at 375°F/191°C until golden brown, about 10 minutes. Allow to cool to room temperature.

4. To serve, fill the cups as desired with a mousse, cream, or poached pear.

MERINGUE SWANS

MAKES 20 SWAN HALVES

INGREDIENT	U.S.	METRIC
Egg whites	6 oz	170 g
Salt	Pinch	Pinch
Vanilla extract	½ tsp	2.5 mL
Sugar	12 oz	340 g

1. Place the egg whites, salt, and vanilla in a bowl and whisk until frothy.

2. Gradually add the sugar while continuing to whisk, and then whisk to stiff peaks.

3. Trace 20 swans on a piece of parchment paper, making 10 left halves and 10 right halves. Flip the parchment paper over and place on a sheet pan, so that the side with the tracing is against the pan.

4. Using a pastry bag fitted with a #3 plain tip, pipe meringue into the traced body of each swan, using the same motion that you would use to pipe a shell border; start at the tip of the wing and end at the bottom, making sure that the bottom edge is smooth. Fill in the head of each stencil with meringue.

5. Cut the parchment paper into rectangles so that there are 2 swan halves, one on top of another, on each. Drape the swan halves over a dowel 3 in/8 cm in diameter, so they will have a slight curve when dry.

6. Place the swans in a turned-off oven with a pilot light. Allow the swans to dry overnight. Alternatively, bake the meringue at 200°F/93°C for several hours, until dry. Cool to room temperature and peel off the parchment paper. Store in an airtight container until ready to assemble.

VACHERINS

MAKES 12 VACHERINS

INGREDIENT	U.S.	METRIC
Swiss Meringue (page 476)	10 oz	280 g

1. Trace twelve ovals, 1½ by 3½ in/4 by 9 cm each, on a full sheet of parchment paper, leaving 3 in/8 cm between them.

2. Flip the parchment paper over and place on a sheet pan, so that the side with the tracing is against the pan.

3. Using a pastry bag fitted with a #3 plain tip, pipe meringue into each traced oval in a spiral motion, beginning at the center and moving out toward the edge, keeping the tip just above the parchment paper while piping. Once each disk is complete, pipe a second layer of meringue all around the outer edge and a third layer if necessary or desired, building a "wall" for the container. The finished vacherins should be 1¼ in/3 cm tall. You may build the "wall" by piping spikes, as shown, or by piping rosettes, one long tube, or any border that will create a container.

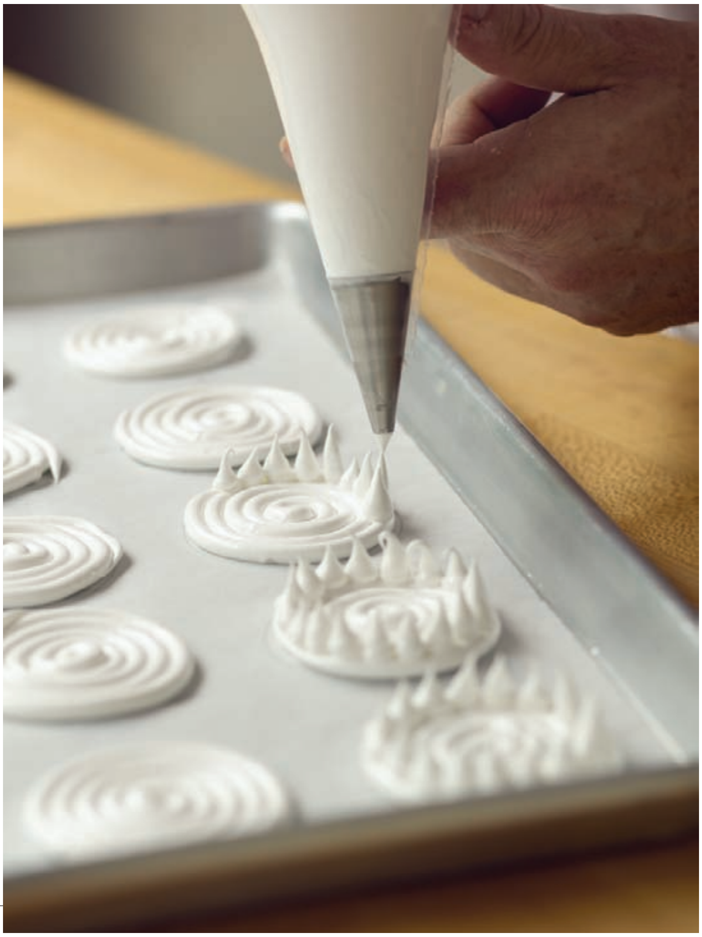
4. Place the sheet pan in a turned-off oven with a pilot light. Allow the vacherins to dry out overnight.

CHEF'S NOTES

To finish vacherins, fill them with a sorbet, mousse, or cream and garnish with anything from chocolate shavings to fresh or poached fruit.

Vacherins should be filled à la minute to prevent them from absorbing too much moisture from the filling and losing their crisp texture. If vacherins must be filled in advance, brush the inside and top rim with tempered white or dark chocolate.

TOP TO BOTTOM: *Paris-Brest with praline pastry cream, Coffee Réligeuses (page 803), Paris-Brest with praline pastry cream, individual Gateau St. Honoré (page 698), Chocolate Éclairs (page 800)*



Pipe the meringue into rounds and then pipe either a circular wall or one with peaks, as shown here, before drying in the oven.

CHOCOLATE ÉCLAIRS

MAKES 12 ÉCLAIRS

INGREDIENT	U.S.	METRIC
Pâte à Choux (page 240)	1 lb	450 g
Egg Wash (page 1064)	As needed	As needed
Diplomat Cream (page 452; see Chef's Note)	1 lb	450 g
Fondant	8 oz	230 g
Dark chocolate, melted	3 oz	90 g
Light corn syrup	As needed	As needed

1. Pipe the pâte à choux into cylinders 4 in/10 cm long on parchment-lined sheet pans using a #8 plain pastry tip and lightly brush with egg wash.

2. Bake at 360°F/182°C until the cracks formed in the pastries are no longer yellow, about 50 minutes. Cool to room temperature.

3. Pierce each end of the éclairs using a skewer or similar instrument.

4. Fill the éclairs with the diplomat cream from each end using a #1 plain piping tip.

5. Warm the fondant over a hot water bath, add the melted chocolate, and thin to the proper viscosity with corn syrup.

6. Top the filled éclairs with the chocolate fondant either by dipping or by enrobing using the back of a spoon.

CHEF'S NOTE

Gelatin is optional in the diplomat cream for this application.

PRALINE ÉCLAIRS

MAKES 12 ÉCLAIRS

INGREDIENT	U.S.	METRIC
Pâte à Choux (page 240)	1 lb	450 g
Egg Wash (page 1064)	As needed	As needed
Sliced almonds	48 slices	48 slices
Sugar	8 oz	230 g
Water	3 oz	90 g
Light corn syrup	1¾ oz	50 g
Pastry Cream (page 417)	12 oz	340 g
Praline paste	2 oz	60 g
Chantilly Cream (page 482)	9 oz	260 g

1. Pipe the pâte à choux into cylinders 4 in/10 cm long using a #5 plain pastry tip.

2. Brush with egg wash and bake at 360°F/182°C until the cracks are no longer yellow, about 50 minutes. Cool to room temperature.

3. Stretch plastic wrap tightly over the back of a sheet pan.

4. For each éclair, place 4 almond slices on the sheet pan in a row the length of the éclairs.

5. To make the topping, cook the sugar, water, and corn syrup until it turns light golden brown. Shock the pan in a bowl of cool water.

6. Dip the top quarter of each éclair into the caramel. Place each éclair caramel side down onto a line of almonds and press down lightly. Cool until the caramel hardens.

7. Remove the éclairs from the sheet pan, and slice off the caramel-coated tops.

8. Combine the pastry cream with the praline paste and mix until well combined.

9. Fill the bottoms of the éclairs with the praline pastry cream.

10. Using a #5 star pastry tip, pipe a spiral of Chantilly cream onto each éclair base.

11. Place the caramel-coated tops on the cream at an angle to expose the cream.

CREAM PUFFS

MAKES 12 CREAM PUFFS

INGREDIENT	U.S.	METRIC
Pâte à Choux (page 240)	1 lb	450 g
Egg Wash (page 1064)	As needed	As needed
Sliced almonds	2 oz	60 g
Granulated sugar	1 oz	30 g
Pastry Cream (page 417)	12 oz	340 g
Chantilly Cream (page 482)	9 oz	260 g
Confectioners' sugar	As needed	As needed

1. Pipe the pâte à choux into bulbs 1½ in/4 cm in diameter onto parchment-lined sheet pans using a #5 plain pastry tip and brush lightly with egg wash.

2. Stick several almond slices into the top of each bulb so that they protrude from the top. Sprinkle each lightly with the granulated sugar.

3. Bake at 360°F/182°C until the cracks formed in the pastries are no longer yellow, about 50 minutes. Cool to room temperature. Slice the top off each of the baked pastries.

4. Pipe the pastry cream into the bases using a #5 plain pastry tip, being careful not to overfill them.

5. Pipe a double rosette of Chantilly cream on top of the pastry cream using a #5 star tip.

6. Place the tops of the pastries on the Chantilly cream and lightly dust with confectioners' sugar.

VARIATION

Place strawberries or other fruit on top of the pastry cream and pipe the Chantilly cream onto the fruit.

Filling the baked puffs with pastry cream

COFFEE RÉLIGIEUSES

MAKES 12 RÉLIGIEUSES

INGREDIENT	U.S.	METRIC
Pâte à Choux (page 240)	2 lb 8 oz	1.13 kg
Egg Wash (page 1064)	As needed	As needed
Coffee pastry cream (page 417)	2 lb	900 g
Fondant, flavored with coffee (page 469)	12 oz	340 g
Coffee Buttercream (page 480)	12 oz	340 g

1. Pipe the pâte à choux into twelve 2 in/5 cm diameter bulbs and twelve 1 cm/3 cm diameter onto two parchment-lined half sheet pans using a #5 plain pastry tip and brush lightly with egg wash.

2. Bake at 360°F/182°C until the cracks formed in the pastries are no longer yellow, about 50 minutes. Poke a hole in the bottom of each puff using a skewer. Cool to room temperature.

3. Pipe the pastry cream into the bottom of the puffs using a #2 plain pastry tip, being careful not to overfill them.

4. Dip the tops of the smaller puffs in the fondant and allow to dry. Dip the tops of the larger puffs in the fondant and place the smaller puffs on top of the larger puffs.

5. Using a small star tip, pipe the coffee buttercream in a ring around the base and on top of the smaller puffs.

PARIS-BREST

MAKES 24 PARIS-BREST

INGREDIENT	U.S.	METRIC
Pâte à Choux (page 240)	1 lb 8 oz	680 g
Egg Wash (page 1064)	As needed	As needed
Chopped toasted almonds	10 oz	280 g
Chantilly Cream (page 482)	1 lb	450 g
Confectioner's sugar	As needed	As needed

1. Prepare parchment paper by tracing 3-in/8-cm circles, spaced apart by at least 2 in/5 cm. Turn the paper over so that the ink is facing down, and place on a sheet pan.

2. Preheat the oven to 375°F/101°C.

3. Meanwhile, prepare pate à choux as directed. Using a large pastry bag fitted with a #824 star tip, pipe over the traced circles, repeating until all of the dough is used.

4. Allow the rings to rest at room temperature for approximately 5 minutes, until a light skin forms on the surface.

5. Lightly brush the rings with egg wash, and while still wet, sprinkle almonds on top of the rings (approximately ¼ oz/7 g per ring).

6. Bake until the rings are golden brown and firm to the touch, about 30 minutes.

7. Allow to cool completely.

8. Meanwhile, prepare the Chantilly cream, and set aside.

9. Once the rings are cooled, slice each ring in half horizontally, placing the lids next to their original bottoms.

10. Using a pastry bag fitted with a #824 star tip, pipe a ring of diplomat cream on the bottom half of the Paris-Brest, keeping the cream aligned to the edges of the ring.

11. Top with the lid of the ring and lightly dust with confectioner's sugar before serving.

CHEF'S NOTE

Paris-Brest are typically filled with Chantilly Cream (page 482) and sliced strawberries.

BAKLAVA

MAKES 1 HALF SHEET PAN, APPROXIMATELY 200 PIECES

INGREDIENT	U.S.	METRIC
Butter, melted	14 oz	400 g
Phyllo dough, 14 by 18-in/35 by 45-cm sheets	2 lb	900 g
Walnuts, coarsely chopped	1 lb	450 g
Cinnamon Sugar (page 1070)	2 oz	60 g
Sugar	14 oz	400 g
Water	8 oz	230 g
Light corn syrup	9 oz	260 g
Honey	9 oz	260 g

1. Brush the bottom and sides of a half sheet pan with enough melted butter to coat.

2. Lay down one layer of the phyllo dough in the buttered pan and brush with a thin coating of melted butter. Keep layering the phyllo and butter for a total of 7 sheets.

3. Sprinkle a thin layer each of walnuts and cinnamon sugar on the sheets. Layer 3 more sheets of phyllo and melted butter on top.

4. Repeat step 3 two more times, creating three sections of walnuts and cinnamon sugar.

5. Layer 7 phyllo sheets with melted butter to make a top layer. Brush the top layer with butter.

6. Wrap the pan tightly in plastic wrap and refrigerate for about 20 minutes to firm up.

7. Using a sharp paring knife, score the baklava three-quarters of the way through, cutting diamond shapes approximately 1 by 1 in/3 by 3 cm.

8. Bake at 375°F/191°C until lightly brown, about 12 minutes.

9. While the baklava is baking, bring the sugar, water, corn syrup, and honey to a boil.

10. Pour the syrup evenly over the baked pastry. Cool to room temperature.

11. Cut entirely through the pastry before serving. Store in an airtight container.

PISTACHIO AND CHOCOLATE PYRAMIDS

MAKES 48 PYRAMIDS (3½ BY 3½ IN/9 BY 9 CM)

INGREDIENT	U.S.	METRIC
Pistachio Cream (page 418)	1 lb 1½ oz	500 g
Pâte à glacer, dark	As needed	As needed
Pistachio Sponge sheets (page 301), 11½ by 16½ in/29 by 42 cm	2	2
Simple Syrup (page 1079)	2 lb	910 g
Kirsch	1 lb	450 g
Chocolate Mousse (page 430)	8 lb 14 oz	4.03 kg
Dark spraying chocolate (page 544)	As needed	As needed
Caramelized pistachios	48	48
Chocolate plaques (see page 987), 3½ in/9 cm	48	48

1. One day in advance, make the pistachio cream and pipe it into pyramid molds (1 by 1 in/3 by 3 cm each). Freeze the molds overnight.

2. Using a pastry brush, apply a thin layer of pâte à glacer on top of the sponge and let it set. Once set, flip the sponge over and soak it with simple syrup and kirsch.

3. Slice the cake into squares slightly larger than 3½ by 3½ in/9 by 9 cm.

4. Pipe or ladle the chocolate mousse into 3½ by 3½-in/9 by 9-cm pyramid molds, filling the molds two-thirds of the way to the top.

5. Unmold the frozen pistachio cream pyramids and push one gently into the center of each mousse-filled mold.

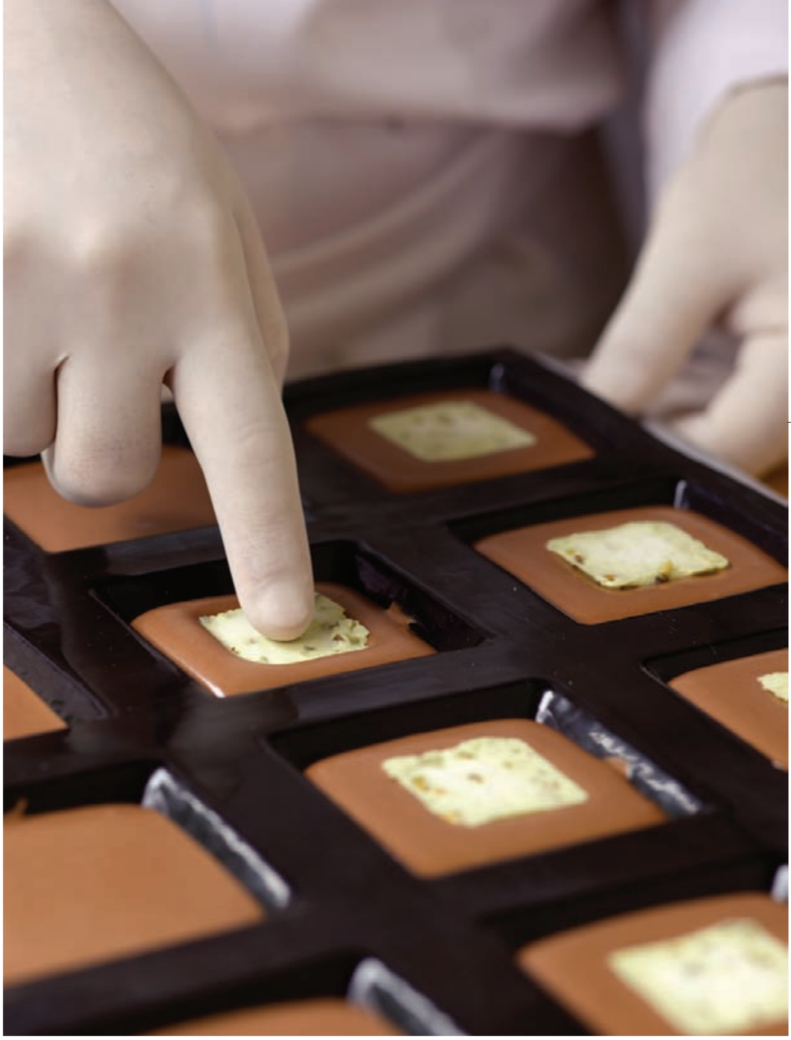
6. Top the pyramids with a pistachio sponge square, with the pâte à glacer–coated side facing away from the mousse.

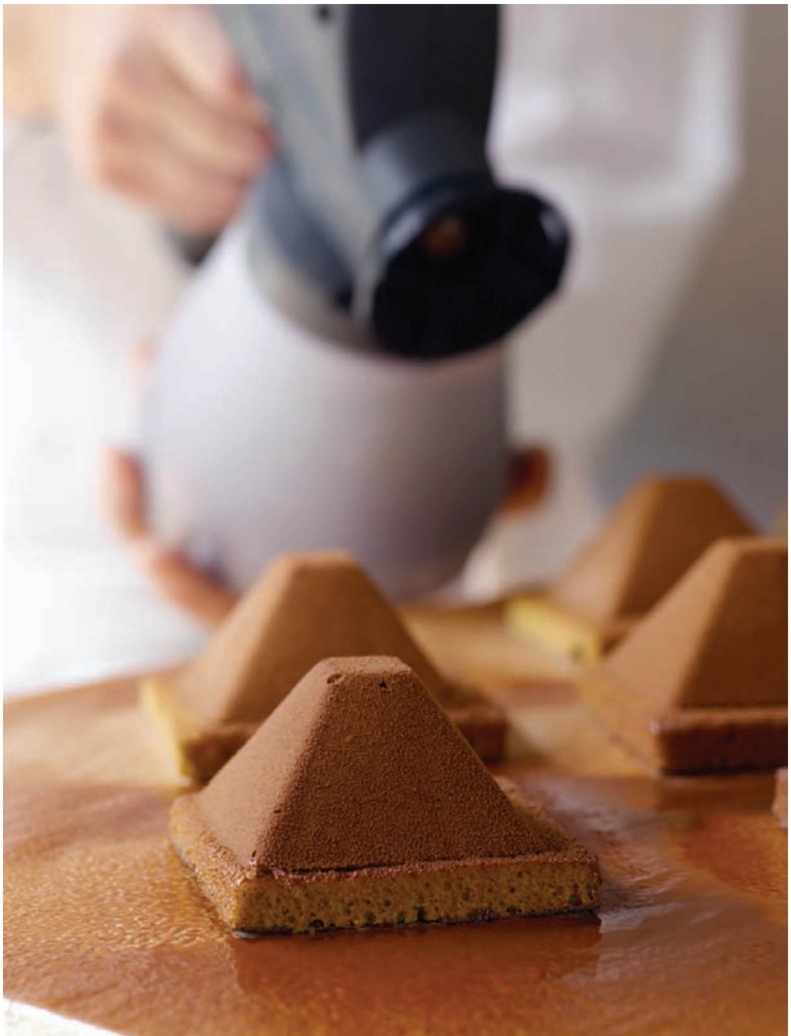
7. Freeze the molds overnight.

8. Unmold the pyramids while still frozen. Using a spraygun, spray a light coating of dark spraying chocolate at 130°F/54°C to give the pyramids a velvety look.

9. Trim the excess sponge from the bottom of the pyramids.

10. Garnish with a pistachio and a chocolate square on top of each pyramid.





TOP: *Press in the pistachio insert until it is just even with the top of the chocolate mousse.*

BOTTOM: *Spray the pyramids using a spray gun to get an even coating.*

MONTE ALBAN

MAKES ONE 11½ BY 16½-IN/29 BY 42-CM FRAME

INGREDIENT	U.S.	METRIC
Soft Hazelnut Dacquoise (page 324)	3 lb 14 oz	1.76 kg
Rustle (page 391)	2 lb 2 oz	960 g
Chocolate Parfait (page 608)	4 lb 8 oz	2.04 kg
Pâte à glacer	As needed	As needed
Red-tinted spraying chocolate (page 544)	As needed	As needed

1. Do not take off the parchment paper on which the dacquoise was baked. Trim the dacquoise to 11½ by 16½ in/29 by 42 cm and reserve.

2. Spread the rustle batter evenly onto a silicone baking mat. Place a piece of parchment paper over the batter and roll out with a rolling pin. Place an 11½ by 16½-in/29 by 42-cm frame on top of the batter and gently press down to mark the size of the frame on the batter. Remove the frame and place the rustle in the freezer.

3. Place a decorative pastry mat on a sheet pan and place the frame on top of the mat. Fill the frame to three-quarters of its depth with the parfait, spreading the parfait evenly with an offset spatula. Reserve the remaining parfait. Place the pan in the freezer for 30 to 40 minutes.

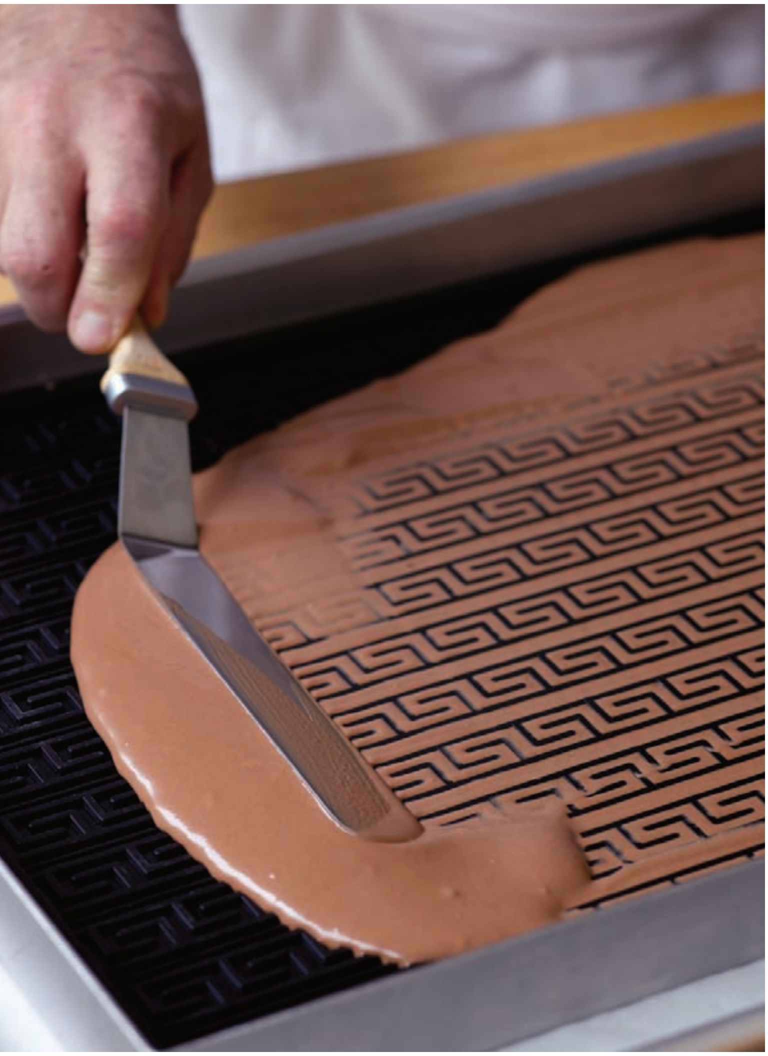
4. Take the rustle out of freezer, remove the parchment paper, and trim to the size of the frame. Let the rustle come back to room temperature, 5 to 10 minutes.

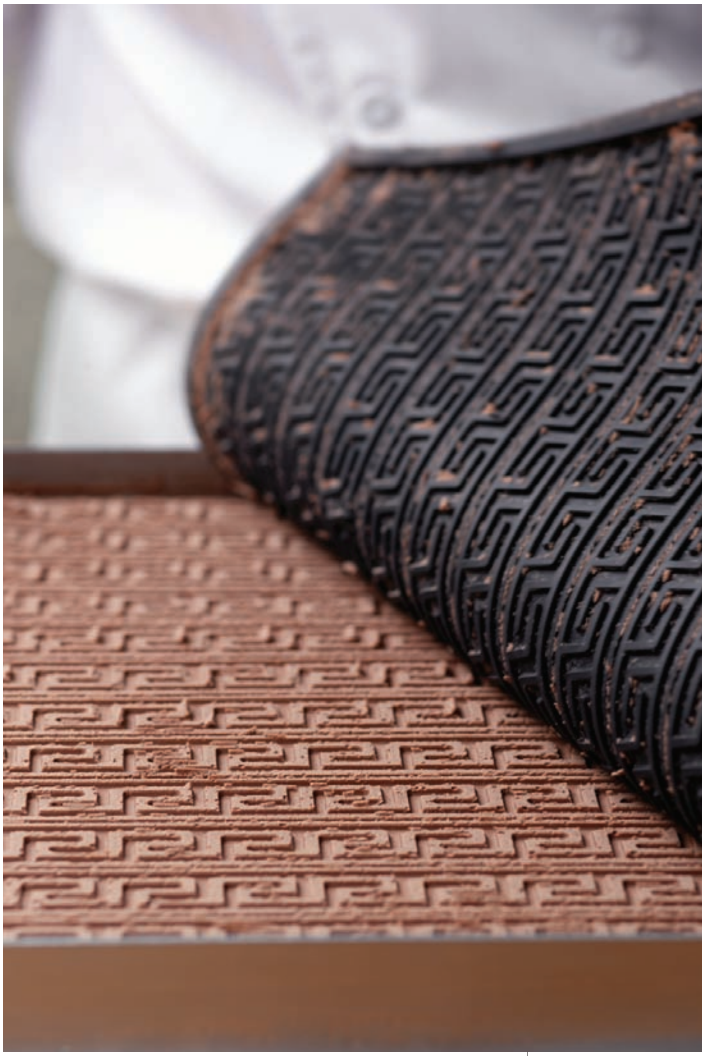
5. Place the rustle, silicone mat up, on top of the parfait in the frame and freeze for 5 minutes. Once hardened, peel back the silicone mat.

6. Using an offset spatula, spread the remaining parfait on top of the rustle. Place the dacquoise on top of the parfait. Carefully remove the parchment. Using a pastry brush, coat the dacquoise with a thin layer of pâte à glacer.

7. Flip the assemblage over so that the decorative mat is facing upward. Lay a pastry board on top of the assembled frame to bind the layers together. Place in the freezer until frozen, 10 to 12 hours or overnight.

8. Gently peel back the decorative mat, then remove the frame. Using a spray gun, spray red-tinted spraying chocolate on the pastry to bring out the shaded relief pattern and give a velvety appearance. Trim the pastry and slice to the desired size.





LEFT: *Spread the parfait onto the decorative mat for the Monte Alban.*

RIGHT: *Gently peel back the mat to maintain the integrity of the pattern in the parfait.*

CHOCOLATE TEARDROPS

MAKES 40 PASTRIES

INGREDIENT	U.S.	METRIC
Chocolate, melted, tempered (see page 904)	1 lb	450 g
Chocolate Sponge sheet (page 288), 11½ by 16½ in by 29 by 42 cm	2	2
Raspberry Bavarian Cream (page 450; optional)	14 oz	410 g
Fruit Jellies (page 967; optional)	40	40
Chocolate Mousse (page 430)	3 lb 4 oz	1.47 kg
Cocoa powder	As needed	As needed

1. Using an offset spatula, spread a thin layer of tempered chocolate (dark, milk, white, or a mix) onto a 1¼ by 8-in/3 by 20-cm piece of acetate.

2. Bring the two end pieces of the acetate together with the chocolate on the inside to form a teardrop shape. Clamp the two ends together with a clip. Repeat with all the remaining 39 pieces of acetate. Let the chocolate set well by leaving the teardrops at room temperature for 1 to 2 hours.

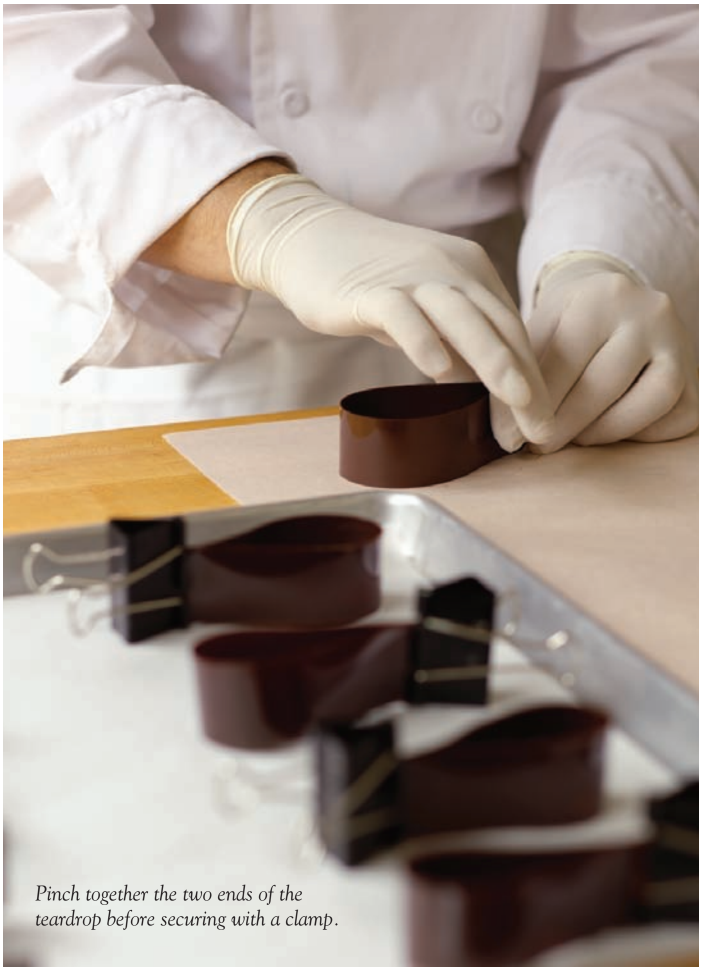
3. Using a 2½-inch/6-cm round cutter, cut the chocolate sponge into 40 circles. Place a chocolate sponge round in the bottom of the teardrop. If desired, place an insert such as a raspberry Bavarian cream dome or fruit gelée in the center, on top of the sponge. Fill the chocolate teardrop to the top of the mold with chocolate mousse. Smooth with a spatula.

4. Place the filled teardrops in the freezer overnight.

5. Lightly dust with cocoa powder. Carefully remove the clip and acetate from the chocolate teardrop shape. Garnish as desired.

CHEF'S NOTE

Other flavors of Bavarian cream can be used.



Pinch together the two ends of the teardrop before securing with a clamp.

HAPPINESS

MAKES ONE 12⅞ BY 17¾-IN/33 BY 45-CM FRAME

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	3 lb	1.36 kg
Guava Jelly (page 544)	1 lb 11 oz	770 g
Coconut Joconde dough (page 307)	2 lb 2½ oz	980 g
Passion Fruit Mousse (page 428)	3 lb 5 oz	1.5 kg
Mango Mirror Glaze (page 494)	2 lb 4 oz	1.02 kg
White chocolate triangle cutouts (see page 986) painted with yellow, orange, and green cocoa butter	As needed	As needed

1. Roll out the cookie dough ⅛ in/0.3 cm thick to the size of a half sheet pan. Dock the dough and chill it for 20 minutes.

2. Place a frame on top of the cookie dough and bake at 350°F/177°C until light golden, 7 to 10 minutes. During baking, the frame will drop into the dough, marking the outline of the frame.

3. Melt the jelly and pour it onto the baked cookie dough inside the frame while the cookie dough is still hot. Spread the jelly evenly with an offset spatula. Let the jelly set.

4. Evenly spread the Joconde dough on a parchment-lined half sheet pan and bake at 375°F/191°C until golden brown, 10 to 12 minutes. When cool enough to handle, cut the Joconde to the size of the frame (12⅞ by 17¾ in/33 by 45 cm). Do not peel off the parchment paper. Cool completely.

5. Flip the Joconde over and place it on top of the jelly; peel off the parchment paper.

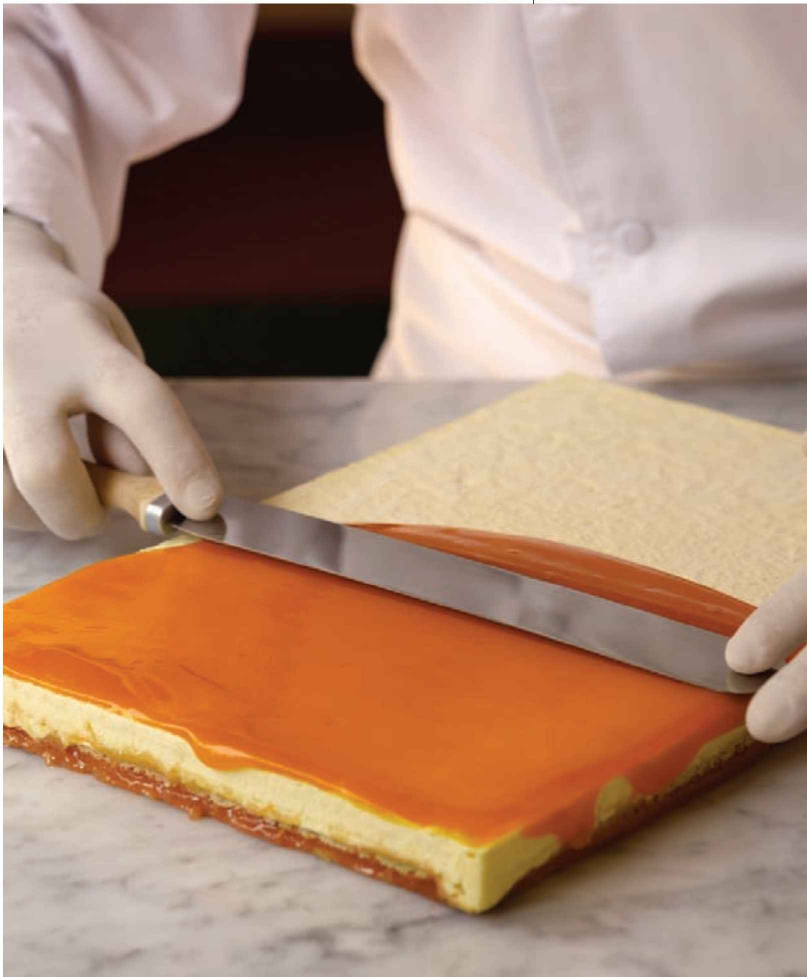
6. Pour the mousse on top of the Joconde, filling the frame all the way to the top. Smooth out the mousse with an offset spatula. Freeze overnight.

7. With a ruler and a warm clean knife, mark a grid on top of the cake while it is still frozen, to the desired size of the pastry. Put the cake back into the freezer for 20 minutes.

8. Remove the cake from the freezer and apply a thin layer of the mango mirror glaze on top, spreading evenly with a spatula. Clean off any excess glaze on the sides the frame and allow to set. Warm the sides of the frame with a torch and remove it.

9. Using a warm, clean knife, cut each slice to finish. Garnish the pastry with white chocolate triangle cutouts. Put the rest of the cake back on a parchment-lined sheet pan and back into the freezer while working on each slice.

Glazing the pastry with mango mirror glaze



COCONUT FRANGIPANE

MAKES 48 OVAL CAKES

INGREDIENT	U.S.	METRIC
Coconut Frangipane Cake (page 727), baked and still warm	4 lb 8 oz	2.04 kg
Simple Syrup (page 1079)	1 lb 8 oz	680 g
Rum	1 lb	450 g
Swiss Meringue (page 476)	2 lb	910 g

1. While still warm, use a pastry brush to soak the coconut frangipane cakes with simple syrup and rum.

2. Once the cakes are cooled, remove them from the oval molds and set on a parchment-lined sheet pan. Using a flat pastry tip, pipe the Swiss meringue with a snake-like motion on top of the cake.

3. Brûlée the meringue with a torch, just enough to get a nice golden brown appearance.

Piped desserts. **FROM LEFT TO RIGHT:** *Russian (page 812), Coconut Frangipane (at left), Cream Puffs (page 802), and Hazelnut Dacquoise (page 814)*

RUSSIAN

MAKES 14 SANDWICH CAKES

INGREDIENT	U.S.	METRIC
Biscuit Russe dough (page 327)	14 oz	400 g
Confectioners' sugar	As needed	As needed
Pistachio Mousseline (page 449)	1 lb 7 oz	650 g
Caramelized pistachios	42	42

1. Before baking the biscuits, dust confectioners' sugar over them and wait for 10 minutes. Dust once more. Bake at 325°F/163°C until a light golden color, 10 to 12 minutes.

2. Reserve the best 14 biscuits for the top. On the other biscuits, pipe ½-in/1-cm pearls of mousseline using a #4 plain piping tip: Pipe 5 pearls around the outside of the biscuit first, then fill the center. Chill until the mousseline sets completely, 20 to 30 minutes.

3. Place the reserved biscuits on top of the chilled mousseline and sprinkle with confectioners' sugar. Garnish the top of the biscuits with 3 caramelized pistachios each.

HAZELNUT DACQUOISE

MAKES 14 SANDWICH CAKES

INGREDIENT	U.S.	METRIC
Dacquoise Meringue (page 325)	1 lb 6 oz	620 g
Praline Mousseline (page 449)	1 lb 7 oz	650 g
Confectioner's sugar	As needed	As needed
Hazelnut Dragée (page 935)	14	14

1. Reserve the best 14 meringues for the top.
2. On the other meringues, pipe ½-in/1-cm pearls of mousseline using a #4 plain pastry tip: Pipe 5 pearls around the outside of the meringue first, then fill the center. Chill until the mousseline sets completely, 20 to 30 minutes.
3. Place the reserved meringues on top of the mousseline and sprinkle with confectioners' sugar. Garnish the top with 1 hazelnut dragée each.

Molded desserts. **FROM LEFT TO RIGHT:** *Happiness (page 811), Chocolate Caramel Mousse Dessert (page 817), Chocolate Teardrops (page 810), Paulina (page 816), and Monte Alban (page 808)*

PAULINA

MAKES 50 PASTRIES (2¾ IN/7 CM EACH)

INGREDIENT	U.S.	METRIC
Yellow, orange, and green decorating batter, for Patterned Joconde Sponge (page 308)	1 lb 3 oz each color	540 g each color
Patterned Joconde Sponge batter (page 308) for sheets 12⅞ by 17¾ in/33 by 45 cm	2	2
1-2-3 Cookie Dough (page 233)	2 lb	910 g
Pâte à glacer, white	As needed	As needed
Lime or Lemon Curd (page 425), cooled	3 lb 3 oz	1.45 kg
Cream Cheese Mousse (page 441)	3lb 10 oz	1.65 kg
Mirror Glaze (page 491), cold	3 oz	90 g

1. Using a small paintbrush, apply a thin layer of yellow, orange, and green decorating batter to two full sheet pan–size silicone baking mats by blotting the bristles onto the mat in a sponge-like manner. Freeze the painted mats for 30 minutes.

2. Divide the Joconde sponge batter evenly between the painted mats, spreading it quickly, before the decorating batter melts, but gently to avoid losing volume.

3. Bake at 400°F/204°C until the sponges are not sticky and are a light golden brown color, about 7 minutes.

4. Line each of fifty 2¾-in/7-cm-diameter ring molds with a 8¼-in/21-cm strip of acetate. Cut the Joconde into strips 1⅛ by 8⅜ in/3 by 21 cm. The strips of Joconde should not be as wide as the walls of the mold are high; leave about ½ in/1 cm between the top of the Joconde and the top of the ring mold.

5. Using a 2½-in/6-cm cutter, cut the remaining Joconde into 50 circles; reserve.

6. Roll out the cookie dough ⅛ in/0.3 cm thick. Using a 2½-in/6-cm cutter, cut 50 rounds from the dough. Place the rounds on a parchment-lined sheet pan and bake in a 375°F/191°C oven until golden, 7 to 10 minutes.

7. Once cool, brush the cookies with a thin layer of pâte à glacer and place at the bottom of each ring mold. On top of the cookie, pipe the curd ½ in/1 cm thick into the molds. Top the curd with the Joconde rounds.

8. Fill the molds to the top with the cream cheese mousse. Wipe the molds clean and even off the tops with an offset spatula. Freeze overnight. (Reminder: Reserve any extra mousse in case it settles in the mold overnight and is no longer even with the top.)

9. If necessary, slightly reheat the mousse, whip by hand, and add to the tops of the molds, making sure the tops are flat and even.

10. Remove the rings from the dessert, but do not remove the acetate.

11. Using an offset spatula, evenly spread the cold glaze over the pastries. Remove the acetate from the pastries while they are still frozen. Decorate the pastry as desired.

CHOCOLATE CARAMEL MOUSSE DESSERT

MAKES 22 PASTRIES (2¾ IN/7 CM EACH)

INGREDIENT	U.S.	METRIC
1-2-3 Cookie Dough (page 233)	2 lb	910 g
Vanilla Sponge sheet (page 288), 11½ by 16½ in/29 by 42 cm	1	1
Simple Syrup (page 1079)	As needed	As needed
Chocolate Caramel Bavarian (page 439)	4 lb 2 oz	1.87 kg
Poached apple or Pear (page 1077), small dice	5	5
Spraying Chocolate (page 544)	As needed	As needed
Hard Ganache (page 484)	1 lb	450 g
Chocolate disks (see page 985), for garnish	22	22
Meringue sticks	44	44

1. Roll out the cookie dough ⅛ in/0.3 cm thick. Using a 2½-in/6-cm cutter, cut 22 rounds. Place the rounds on a parchment-lined sheet pan and bake at 375°F/191°C until golden, 7 to 10 minutes. Cool completely.

2. Using a 2½-in/6-cm cutter, cut the sponge into 22 rounds. Soak the sponge with the simple syrup.

3. Place 2¾-in/7-cm ring molds on a sheet pan and line the inside of each mold with acetate.

4. Place a cookie round in the bottom of each ring mold. Place a sponge round on top of each cookie.

5. Using a pastry bag fitted with a #4 piping tip, pipe the mousse into the mold, working from the outside in, filling the mold two-thirds of the way up the side and leaving an empty circle in the center. Make sure there are no air bubbles in the piped mousse.

6. Fill a new pastry bag with the fruit and cut a hole in the bottom of the bag big enough to pipe the fruit through it. Pipe the fruit into the empty circle on top of the sponge.

7. Pipe the remaining mousse to the top of the mold. Smooth the top with a small offset spatula.

8. Freeze the molds for 10 to 12 hours or overnight.

9. To finish the pastries, remove the rings and place the pastries at least 1 in/3 cm apart on top of an upside-down sheet pan covered with parchment paper. Remove the acetate from the pastries.

10. Heat the spraying chocolate to 95°F/35°C and splatter the pastries with it, making random lines of chocolate on the tops and sides.

11. Pipe 3 dots of ganache on top of each pastry, forming a triangle, and place the chocolate disk on top of the ganache. Before service, place 2 meringue sticks onto the disk.

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SAVORY BAKING

Savory baking enables the pastry chef to deepen the professional repertoire. Execution of these products will broaden understanding of how savory baked goods can provide opportunities for lighter dining, creative amuse plates, and nourishing accompaniments to an informal gathering, cocktail reception, or large-scale catering event.

THE IMPORTANCE OF SAVORY FOR A PASTRY CHEF OR BAKER

THE ESSENTIAL ELEMENTS OF savory baking include an understanding of the varied global influences on savory baking technique and the ability to adapt already-developed traditional baking and pastry skills to the novel and nontraditional aspects of savory baking.

An important additional consideration is the ability of savory baking to marry techniques with which the baking or pastry student may be familiar with a variety of foods and cooking techniques that may be unfamiliar. Preparing a savory meat-and-vegetable-filled pastry, for example, can allow hands-on experience with meat cuts, grinding, knife skills, filleting, sautéing, braising, and simmering.

FLAVOR PROFILES AND FOOD TRENDS

POPULAR INFLUENCES ON FLAVORS are evident in the crossover between the preparation of traditional pastry and savory pastry flavored with aromatics and herbs. These ingredients allow for a fusion of flavors and textures not traditionally found in a strictly segregated baking or pastry kitchen. Chefs with the proper training and exposure are then able to identify, assess, and prepare a range of savory dishes.

Some savory baking or pastry items, such as savory scones, are intended to be served warm or cold as a complement to a light meal or stand-alone bakery take-away item. The essential techniques used for making sweet or dessert items are wholly recognizable. It is the varied and diverse combination of novel or nontraditional ingredients that is of interest.

Seasonality is an important consideration when preparing a menu including savory baking and pastry items. Fresh herbs, seasonal produce, and high-quality supplemental ingredients are of concern to the professional chef seeking to expand the items available on the menu while respecting that the overall quality of the end product. For this reason, the professional chef may consider the quality of products used in savory baking and the origins of these ingredients, including farming techniques, organic certification, and the distance from the crop or livestock source to eventual delivery for kitchen preparation. It is not always financially practical or possible given intended use, but as with the current trend toward a broader and more inclusive array of ingredients, the source of such ingredients and the distance traveled are important considerations for the modern chef and his or her customers.

Finally, savory baking and pastry items allow the professional chef to expand market appeal and to diversify both the niche and the menu for his or her cookery. The audience for savory baking and pastry includes restaurant patrons served an amuse or other small and flavorful side, as well as café customers for whom smaller portions and premise cooking limitations place a premium on maximizing space, plating options, and storage. Brunches allow novel combinations of ingredients that are still wholly usable and add value as nutritious additions to baked goods, pastries, and batter-based products. Puff pastries, hors d'oeuvre, and bite-size portions of ingredients complementary to a later meal service, such as canapés filled with a variation on the entrée, are another way in which baked goods and pastries with savory ingredients can enhance the overall enjoyment of food in a variety of professional cooking venues.

CUTTING VEGETABLES AND FRESH HERBS

THERE ARE SEVERAL BASIC knife cuts with which you should be familiar.

CHOPPING AND MINCING

Coarse chopping is generally used for mirepoix or similar flavoring ingredients that are to be strained out of the dish and discarded. It is also appropriate when cutting vegetables that will be puréed. Trim the root and stem ends and peel the vegetables if necessary. Slice or cut through the vegetables at nearly regular intervals until the cuts are relatively uniform. This need not be a perfectly neat cut, but all the pieces should be roughly the same size.

Mincing is a very fine cut, suitable for many vegetables and herbs. Onions, garlic, and shallots are often minced.

1. Rinse and dry herbs well. Strip the leaves from the stems.

2. Gather the herbs into a tight ball before slicing them, which produces a very coarse chop. Use your guiding hand to hold them in place.

3. Position the knife so that it can slice through the pile and chop coarsely.

4. Once the herbs are coarsely chopped, use the fingertips of your guiding hand to hold the tip of the chef's knife in contact with the cutting board. Keeping the tip of the blade against the cutting board, lower the knife firmly and rapidly, repeatedly cutting through the herbs.

5. Continue to cut the herbs until the desired fineness is attained.

6. Green onions and chives are minced differently. Rather than cutting repeatedly, slice them very fine.

LEFT: *Slicing garlic*

RIGHT: *Mincing herbs*

CHIFFONADE

The chiffonade cut is used for leafy vegetables and herbs. The result is a fine shred, often used as a garnish or bed. Use a chef's knife to make very fine, parallel cuts to produce fine shreds.

For Belgian endive, remove the leaves from the core and stack them. Make parallel lengthwise cuts to produce a shred.

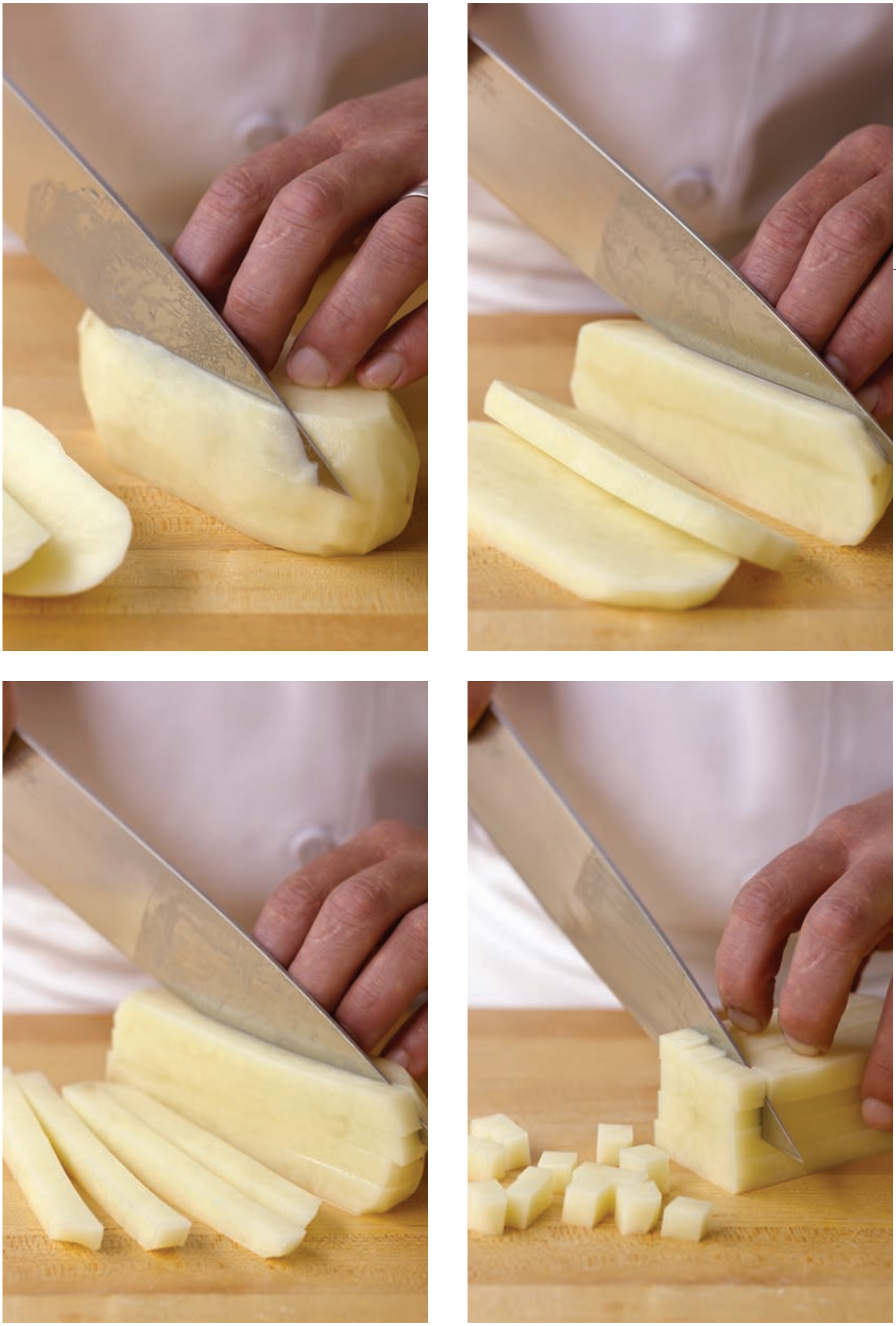
For greens with large leaves, such as romaine, roll individual leaves into cylinders before cutting crosswise. Stack smaller leaves, such as basil, one on top of another, then roll them into cylinders and cut crosswise.

Chiffonading basil

Other Knife Cuts

STANDARD VEGETABLE CUTS		
Fine julienne	¹⁄₁₆ by ¹⁄₁₆ by 1–2 in	0.2 by 0.2 by 2.5–5.0 cm
Julienne/allumette	⅛ by ⅛ by 1–2 in	0.4 by 0.4 by 2.5–5.0 cm
Batonnet	¼ by ¼ by 2–2½ in	0.6 by 0.6 by 5.0–6.0 cm
Fine brunoise	¹⁄₁₆ by ¹⁄₁₆ by ¹⁄₁₆ in	0.2 by 0.2 by 0.2 cm
Brunoise	⅛ by ⅛ by ⅛ in	0.4 by 0.4 by 0.4 cm
Small dice	⅛ by ⅛ by ¼ in	0.4 by 0.4 by 0.6 cm
Medium dice	½ by ½ by ½ in	1.2 by 1.2 by 1.2 cm
Large dice	¾ by ¾ by ¾ in	2 by 2 by 2 cm
ADDITIONAL VEGETABLE CUTS		
Paysanne	½ by ½ by ⅛ in	1.2 by 1.2 by 0.4 cm
Fermière	⅛–½ in, as desired	0.4–1.2 cm
Lozenge	½ by ½ by ⅛ in, diamond cut	1.2 by 1.2 by 0.4 cm
Rondelle	⅛–½ in, as desired, round cut	0.4–1.2 cm
Tourné	7-sided oblong cut, approximately 2 in	5 cm

DICING



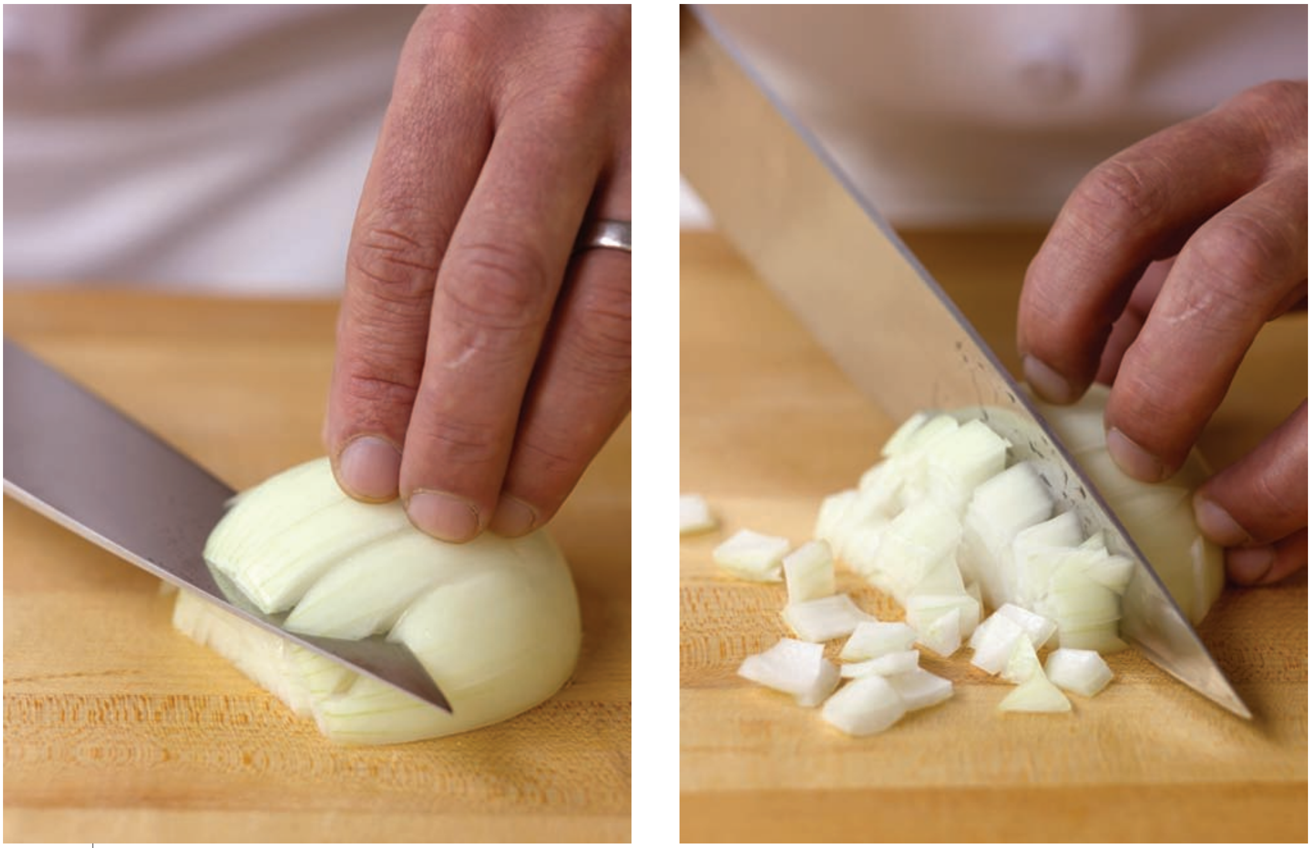
TOP LEFT: *Square off the vegetable.*

TOP RIGHT: *Slice parallel cuts of equal thickness.*

BELOW LEFT: *Cut batonnet from slices.*

BELOW RIGHT: *Cut dice from batonnet.*

CHOPPING ONION



LEFT: *Slicing horizontally after scoring vertically*
RIGHT: *Chopping*

COOKING METHODS

THE ABILITY TO PROPERLY execute any cooking method is imperative to the successful outcome of any formula. Consider the instructions in each individual technique. What is the basic final result? How many steps are there? What is the mise en place for each step?

SAUTÉING

Sautéing is a technique that cooks food rapidly in a little fat over relatively high heat. Certain menu items listed as seared/pan-seared, charred/pan-charred, or pan-broiled are essentially sautéed. Those terms on a menu have come to suggest that even less oil is used than for a traditional sauté. Sautéed dishes typically include a sauce made with the drippings, or fond, left in the pan.

Searing may be a first step for some roasted, braised, or stewed foods. They are cooked quickly in a small amount of oil over direct heat. The difference between searing and sautéing is not how the technique is performed, but that seared foods are not cooked completely as a result of searing. Searing is used as an effective way to develop flavor and color for the longer, slower cooking methods.

Stir-frying shares many similarities with sautéing. Foods are customarily cut into small pieces—usually strips, dice, or shreds—and cooked rapidly in a little oil. They are added to the pan in sequence; those requiring the longest cooking times are added first, those that cook quickly only at the last moment. The sauce for a stir-fry, like that of a sauté, is made or finished in the pan to capture the dish's entire flavor.

LEFT: *Placing arugula in a sauté pan*

RIGHT: *Sautéed arugula*

Choose the most tender cuts of beef, veal, lamb, pork, or large game animals from the rib or loin, as well as portions of the leg, for sautéing. Poultry and game bird breasts are often preferred for sautéing. Firm or moderately textured fish are easier to sauté than very delicate fish. Shellfish, in and out of the shell, also sauté well. Select the cooking fat according to the flavor you want to create, food cost, availability, and smoke point.

The base for a pan sauce in sautéing may vary to suit the flavor of the main item. Brown sauces such as demi-glace or jus lié, veloutés, reduced stocks (thickened with a slurry if necessary), vegetable coulis, or tomato sauce may be used. Consult specific recipes.

A sauté pan has short, sloped sides and is wider than it is tall, to encourage rapid moisture evaporation. It is made of a metal that responds quickly to rapid heat changes. Woks are used to prepare stir-fries. Pan-seared and pan-broiled items are often prepared in heavy-gauge pans that retain heat, such as cast-iron pans. Have available tongs or spatulas to turn foods and remove them from the pan, holding pans to reserve foods while a sauce is prepared or finished, and all appropriate service items (heated plates, garnishes, and accompaniments).

SWEATING

Sweating is cooking an item, usually a vegetable, in a covered pan in a small amount of fat until it softens and releases moisture but does not brown. In some instances, items are begun cooking by sweating and later finished by baking in a recipe such as a quiche or savory tart. It is important not to allow browning when initially sweating vegetables, as they may burn when cooked further.

Sweating diced onions and red peppers in a sauté pan

STEAMING

Cooked surrounded by water vapor in a closed cooking vessel, steamed foods have clean, clear flavors. Steam circulating around the food provides an even, moist environment. Steaming is an efficient and highly effective way to prepare naturally tender fish and poultry. Properly steamed foods are plump, moist, and tender; they generally do not lose much of their original volume. They often retain more intrinsic flavor than foods cooked by other methods because the cooking medium does not generally impart much flavor of its own. Colors also stay true.

The best foods for steaming are naturally tender and of a size and shape that allow them to cook in a short amount of time. Cut food into the appropriate size, if necessary. Fish is generally cooked as fillets, although there are some typical presentations of whole fish. Similarly, boneless, skinless poultry breasts (suprêmes) steam well. Shellfish can be left in the shell unless otherwise indicated; for example, scallops are customarily removed from the shell. Shrimp may also be peeled before steaming.

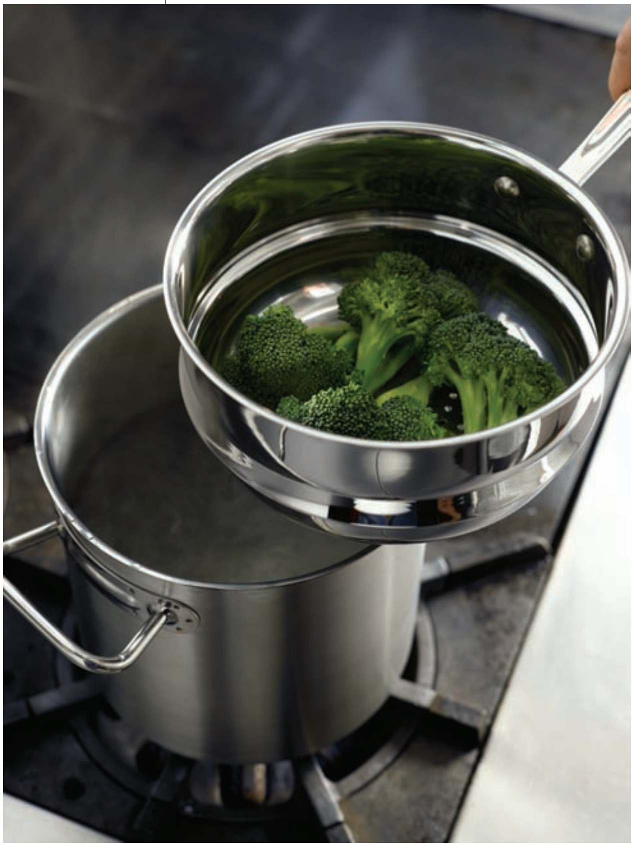
Many different liquids are used for steaming. Water is common, but a flavorful broth or stock, court bouillon, wine, or beer can also be used, especially if the steaming liquid is served along with the food. Adding such aromatic ingredients as herbs and spices, citrus zest, lemongrass, ginger, garlic, and mushrooms to the liquid boosts its flavor as well as that of the food being steamed. Sometimes food is steamed on a bed of vegetables in a closed vessel; the vegetables' natural moisture becomes part of the steam bath cooking the food. Fillings, marinades, and wrappers can all be used in preparing steamed foods. Fish is sometimes wrapped to keep it exceptionally moist.

Small amounts of food can be steamed using a small insert. Larger quantities, or foods that require different cooking times, are better prepared in a tiered steamer. Remember that it is important to allow enough room for steam to circulate completely around foods as they cook to encourage even, rapid cooking.

Pressure steamers that reach higher temperatures than tiered steamers and convection steamers

LEFT: *Steaming broccoli: Place raw broccoli over boiling water.*

RIGHT: *The finished broccoli should be tender and bright green.*



are good choices for steaming large quantities. The chef can then prepare appropriately sized batches throughout a meal period or handle the more intense demands of a banquet or institutional meal situation.

GRILLING AND BROILING

Grilling and broiling are quick cooking techniques used for naturally tender serving-size or smaller pieces of meat, poultry, or fish. By contrast, roasting and baking require a longer cooking time and are frequently used with larger cuts of meat, whole birds, and dressed fish.

Grilling cooks food with radiant heat from a source located below it. Some of the juices are actually reduced directly on the food while the rest drip away. Grilled foods have a slightly charred flavor, resulting from the juices and fats that are rendered as the food cooks, as well as from direct contact with the rods of the grill rack.

Broiling is similar to grilling but uses a heat source located above the food rather than below. Frequently, delicate foods like lean white fish are brushed with butter or oil, put on a heated, oiled sizzler platter, and then placed on the rack below the heat source instead of directly on the rods.

Tender portion-size cuts of poultry, cuts of meat from the loin, rib, or top round areas, and fillets of fatty fish such as tuna and salmon are suited to grilling and broiling. Lean fish may also be grilled or broiled if they are coated with oil or an oil-based marinade. Some less-tender cuts of meat such as hanger or flank steak may also be used if they are cut very thin before or after cooking.

All meat and fish should be cut to an even thickness. When preparing meat for grilling or broiling, pound meats and fish lightly if necessary to even their thickness. Meat should be trimmed of excess fat and all silverskin and gristle. Some foods are cut into strips, chunks, or cubes and then threaded onto skewers. The food itself should be seasoned and in some cases lightly oiled.

Different parts of the grill are hotter than others. Divide the grill into zones of varying heat intensity, including a very hot section for quickly searing foods and an area of moderate-to-low heat for slow cooking and holding foods. (if the grill is wood- or charcoal-fired, set aside an area for igniting the fuel, which may be too hot and smoky to cook foods over directly.)

Zones may also be allocated for different types of foods, in order to prevent an undesirable transfer of flavors. Developing a system for placing foods on the grill or broiler, whether by food type or by range of doneness, helps speed up work on the line.

Woods such as mesquite, hickory, or apple are frequently used to impart special flavors. Hardwood chips, herb stems, grapevine trimmings, and other aromatics can be soaked in cold water and then thrown on the grill fire to create aromatic smoke. The sauce that accompanies a grilled item is prepared separately.

ROASTING

Roasting, whether by pan roasting, baking, smoke-roasting, or poêléing, is a way to cook by indirect

Roasted vegetables

heat in an oven. Spit-roasting is more like grilling or broiling. Either way, the result is a crusty exterior and tender interior. The term *baking* is often used interchangeably with roasting; however, it is most typically used in relation to breads, cakes, pastries, and the like.

Rotisserie cooking or spit-roasting involves placing the food on a rod that is turned either manually or by a motor. The radiant heat given off by a fire or gas jet cooks the food while constant turning creates a basting effect and ensures that the food cooks evenly.

Roasting, as it is most often practiced today, is more similar to baking than it is to spit-roasting or rotisserie cooking. In an oven, roasted foods are cooked through contact with dry heated air held in a closed environment. As the outer layers become heated, the food's natural juices turn to steam and penetrate the food more deeply. The rendered juices, also called *pan drippings* or *fond*, are the foundation for sauces prepared while the roast rests. Roasting commonly refers to large, multi-portion meat cuts, whole birds, and dressed fish.

Roasted vegetables

Smoke-roasting is an adaptation of roasting that allows foods to take on a rich, smoky flavor. The food cooks in a tightly closed environment or in a smoker setup. This can be done over an open flame or in the oven.

Tender meats from the rib, loin, and leg give the best results. Young, tender birds may be roasted whole, as may dressed fish. Trim away any excess fat and silverskin. A layer of fat or poultry skin helps to baste foods naturally as they roast. Season meats, poultry, and fish before roasting to fully develop their flavor. For additional flavor during roasting, herbs or aromatic vegetables may be used to stuff the cavity or may be inserted under the skin.

Foods such as whole birds, chicken breasts, and chops may be stuffed before roasting. Season the stuffing and chill it to below 40°F/4°C before combining it with raw meat, fish, or poultry. Allow enough time for the seasonings to interact with the food before starting to roast. Place fresh herbs in the cavity of a bird before trussing, rub seasonings on the skin or slip them under the skin.

A good roasting pan has a flat bottom with relatively low sides to encourage hot air to circulate freely around the roasting food. Select a pan that holds the food comfortably but is not so large that the pan juices will scorch. Food to be roasted may be set on a roasting rack, which permits the hot air to contact all of the food's surfaces, but good results are also possible when foods are set in very shallow roasting or baking pans elevated by aromatics such as mirepoix. The pan should remain uncovered.

You may need butcher's twine or skewers as well as an instant-read thermometer and a kitchen fork. Have an additional pan to hold the roasted food while a sauce is made from the pan drippings. Strainers and skimmers or ladles are needed to prepare the sauce. Have a carving board and an extremely sharp carving knife nearby for final service.

Best results are achieved when the oven is at the correct roasting temperature before the roasting pan is put into it. If searing foods in a very hot oven, heat the oven to 425° to 450°F/218° to 232°C. Roast large cuts such as prime rib or turkey at a low-to-moderate temperature throughout

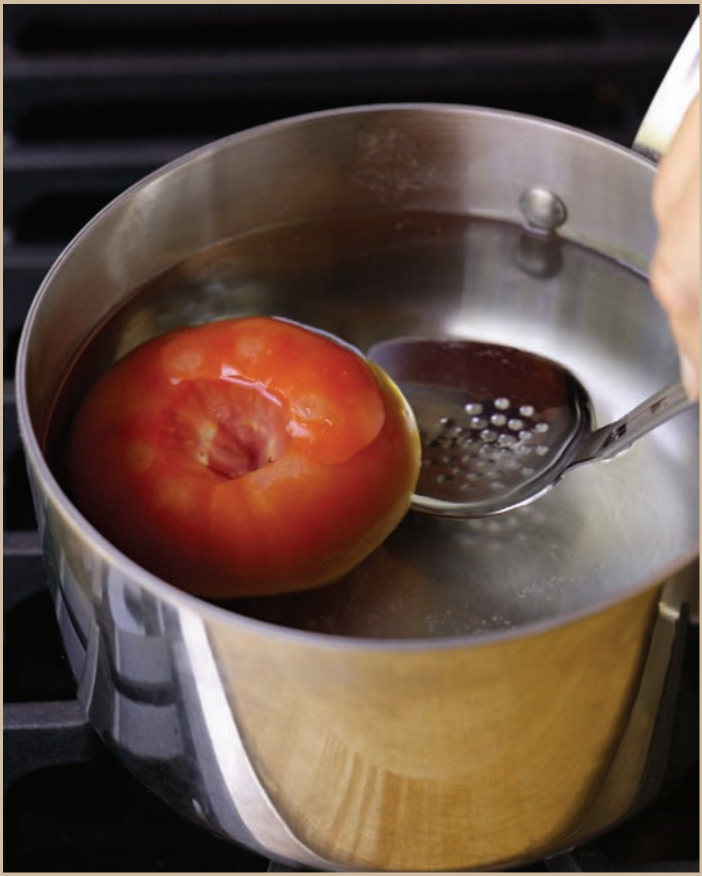
TOP LEFT: *Blanch the tomato in simmering water.*

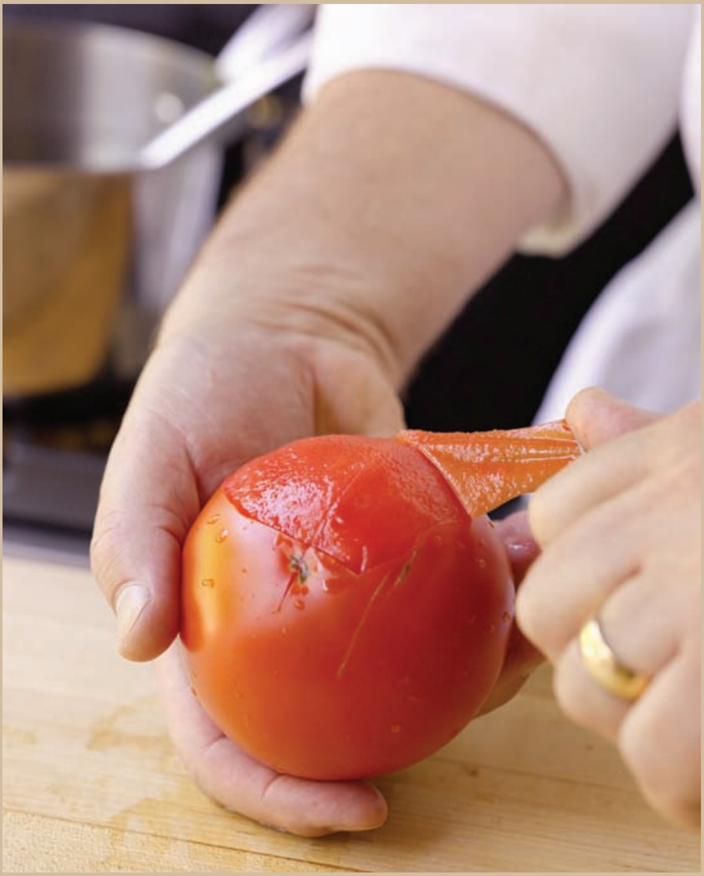
TOP RIGHT: *Remove the skin from the tomato.*

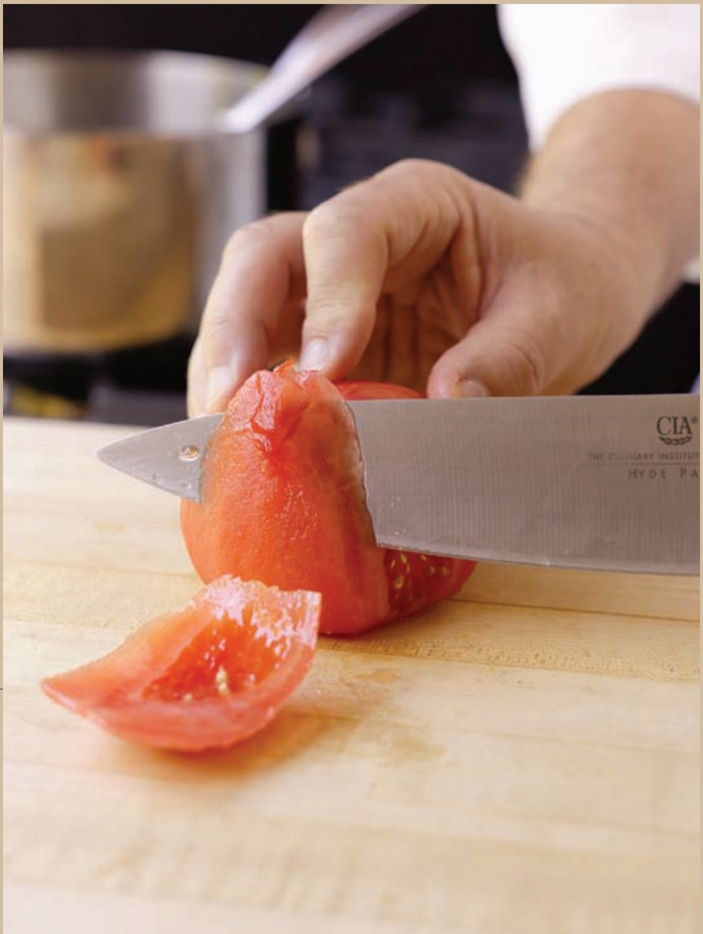
BELOW LEFT: *Cut the tomato into petals.*

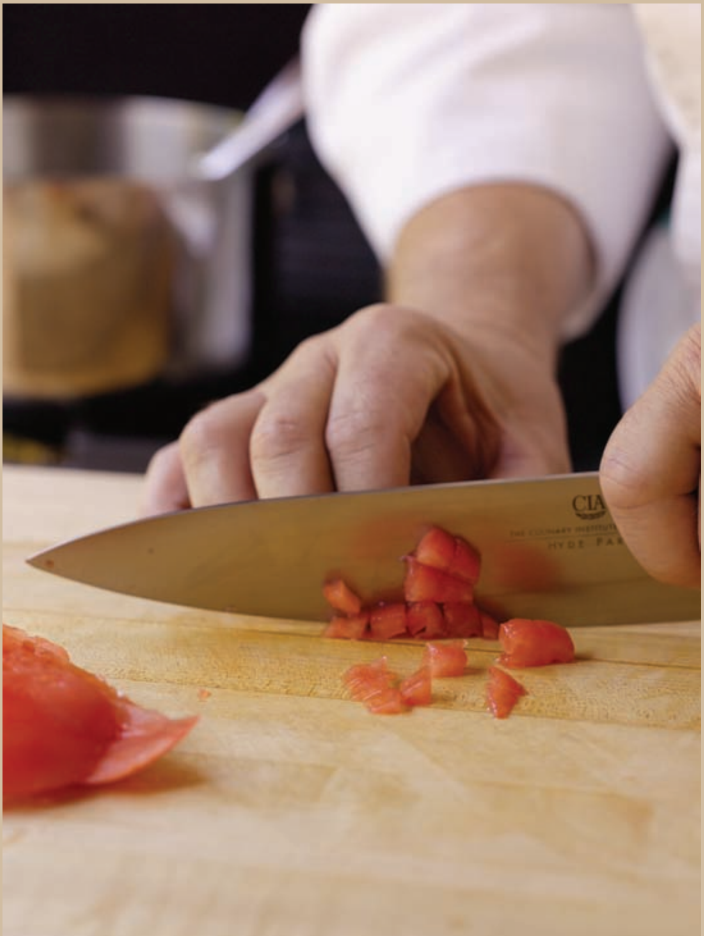
BELOW RIGHT: *Dice the tomato.*

TOMATO CONCASSÉ









roasting; a deeply browned exterior is the result of the extended roasting time. Start smaller or more delicate foods at a low-to-moderate temperature (300° to 325°F/149° to 163°C) and then brown them at the very end of roasting by increasing the temperature of the oven to 350° to 375°F/177° to 191°C.

Today, with increased concern over the amount of fat in diets, every trace of visible fat or skin is often removed in an effort to reduce fat in the final dish, even though the amount of fat released from skin or fat layers as foods roast does not penetrate far into the meat. Fat and skin provide some protection from the drying effects of an oven without dramatically changing the amount of fat in the meat, and foods stripped of their natural protection of fat or skin can become dry and lose flavor.

FRYING

PAN FRYING

Pan-fried foods have a richly textured crust and a moist, flavorful interior, producing a dish of intriguing contrasts in texture and flavor. When a carefully selected sauce is paired with a dish, the effects can range from home-style to haute cuisine. Pan-fried food is almost always coated— dredged in flour, coated with batter, or breaded. Food is fried in enough oil to come halfway or two-thirds up its side; it is often cooked over less intense heat than in sautéing. The product is cooked by the oil's heat rather than by direct contact with the pan. In pan frying, the hot oil seals the food's coated surface, thereby locking in the natural juices. Because no juices are released and a larger amount of oil is involved, sauces accompanying pan-fried foods are usually made separately.

Pan-fried food is usually portion-size or smaller. Select cuts that are naturally tender, as you would for a sauté. Rib or loin cuts, top round, or poultry breasts are all good choices. Lean fish such as sole or flounder are also well suited to pan frying. Trim away any fat, silverskin, and gristle. Remove the skin and bones of poultry and fish fillets if necessary or desired. You may want to pound cutlets for an even thickness and to shorten cooking time. This means that the exterior will brown without overcooking in the same time that the meat cooks through.

Ingredients for breading include flour, milk or beaten eggs, and bread crumbs or cornmeal. Select shallow, wide containers to hold coatings, breading, or batters.

The fat for pan frying must be able to reach high temperatures without breaking down or smoking. Vegetable oils, olive oil, and shortenings may all be used for pan frying. Lard, goose fat, and other rendered animal fats have a place in certain regional and ethnic dishes. The choice of fat makes a difference in the flavor of the finished dish.

The pan used for pan frying must be large enough to hold foods in a single layer without touching. If the food is crowded, the temperature of the fat will drop quickly and a good crust will not form. Pans should be made of heavy-gauge metal and should be able to transmit heat evenly. The sides should be higher than those appropriate for sautés to avoid splashing hot oil out of the pan as foods are added to the oil or turned during cooking. Have on hand a pan lined with paper towels to blot away surface fat from fried foods. Tongs or slotted spatulas are typically used to turn foods.

DEEP-FRYING

Deep-fried foods have many of the same characteristics as pan-fried foods, including a crisp, browned exterior and a moist, flavorful interior. Deep-fried foods, however, are cooked in enough fat or oil to completely submerge them. In deep-frying, significantly more fat is used than for either sautéing or pan frying. The food is almost always coated with a standard breading, a batter such as a tempura or beer batter, or a simple flour coating. The coating acts as a barrier between the fat and the food, and also contributes flavor and texture.

To cook rapidly and evenly, foods must be trimmed and cut into a uniform size and shape. Select cuts that are naturally tender; some typical choices include poultry, seafood, and vegetables. Remove the skin and bones of poultry and fish fillets if necessary or desired. Be certain to season the food before adding a coating. Deep-frying is also suitable for croquettes and similar dishes made from a mixture of cooked, diced meats, fish, or poultry, bound with a heavy béchamel and breaded.

Breadings and coatings are common for deep-fried foods. Standard breading can be done three to four hours ahead and items refrigerated before frying, but ideally breading should be done as close to service as possible. A batter or plain flour coating is applied immediately before cooking.

MAKING A GASTRIQUE

A GASTRIQUE IS A vinegar and sugar reduction that can be used to brighten dishes and add balance to the plate by incorporating acid into the flavor profile. Combine the vinegar and sweetener, which can be sugar, corn syrup, honey, maple syrup, or any number of sweeteners, and bring to a simmer. Reduce the mixture until it is syrupy. The gastrique will thicken slightly as it cools.

Making a gastrique

Electric or gas deep fryers with baskets are typically used for deep-frying, although it is also feasible to fry foods using a large pot. The sides should be high enough to prevent fat from foaming over or splashing, and the pot wide enough to allow the chef to add and remove foods easily. Use a deep-fat frying thermometer to check the fat's temperature, regardless of whether you use an electric or gas fryer or a pot on a stovetop. Become familiar with the fryer's recovery time (the time needed for the fat to regain the proper temperature). After foods are added, the fat will lose temperature for a brief time. The more food added, the more the temperature will drop and the longer it will take to come back to the proper level.

Kitchens that must fry many kinds of food often have several different fryers to help prevent flavor transfer. Have a pan lined with paper towels to blot fried foods before they are served. Tongs, spiders, and baskets help add foods to the fryer and remove them when properly cooked.

PICKLING VEGETABLES

PICKLING IS A TRADITIONAL technique that preserves food by brining it or packing it in vinegar. The process tenderizes the food slightly, but the finished pickles maintain a crisp texture and a characteristic sour flavor that has become a pantry staple.

Choose fresh, ripe vegetables for pickling. Avoid produce with spoilage, dark spots, or bruising. Additionally, overripe vegetables may become mushy when pickled. Wash and dry the vegetables carefully before beginning any preparation. Use the exact type of produce referenced in a recipe, as many items do not pickle well. Trim the ends off of vegetables, especially cucumbers. The end of a vegetable that was attached to the plant can contain various enzymes which can affect the texture of the finished pickled product and/or lead to spoilage. In addition, be sure to use unwaxed produce—any produce with a wax coating will not properly pickle.

Vegetables are not the only foods that can be successfully pickled— many varieties of fruit make delicious pickles. Choose firm, ripe (but not overripe) fruits, as the pickling process will tenderize the flesh somewhat. You may want to pretreat the fruit to prevent discoloration.

TOP RIGHT: *Stir the brine ingredients together.*

BOTTOM LEFT: *Ladle the brine over the vegetables.*

BOTTOM RIGHT: *The finished pickles.*

SAVORY BAKING AND PASTRY PRODUCTS

QUICHE

Quiche is a savory custard baked in a pie shell, and may include a variety of savory, aromatic, and other ingredients. Of French origin, this savory pie is often accompanied by herbs incorporated into the custard, or enhanced with cheese or other appropriate products. Quiche is often served as a brunch or buffet item, and can be readily portion-cut and served with complementary meat or vegetable items.

TARTS

Tarts are made in a shallow, straight-sided pastry crust that is either fluted or plain and filled with a savory mixture. They may be either filled with fresh ingredients and served, or cooked and then served either warm or cooled.

MOUSSE

Mousses are foams made with beaten egg whites, with or without whipped cream, folded into a flavored base. These items may be either sweet or savory.

PIZZAS AND SANDWICHES

These are bread-based items to which any number of toppings or fillings are added, most often a meat, fish, or poultry item with complementary vegetables, herbs, and sauce.

BRIE EN CROÛTE

MAKES 50 PIECES

INGREDIENT	U.S.	METRIC
Butter Puff Pastry Dough (page 244)	3 lb 8 oz	1.59 kg
Brie, small cubes	8 to 12 oz	230 to 340 g
Egg Wash (page 1064)	As needed	As needed

1. Divide the puff pastry dough in half and roll the 2 pieces to approximately ⅛ in/0.3 cm thick. Place one sheet of puff pastry dough in the freezer to keep it cold.

2. Using a 1½-in/4-cm round cutter, mark on the other sheet where the cheese will be placed. Mark the circles about 1 in/2.5 cm apart. Place a piece of the cheese inside each marked circle. Brush egg wash around the cheese.

3. Cover the dough and cheese with the sheet of dough from the freezer.

4. Using a slightly smaller round cutter, gently press around the cheese to seal the two pieces of dough together. Place in the freezer for 20 minutes before cutting.

5. Cut the dough around the cheese using a fluted cutter 2¼ in/5.5 cm in diameter.

6. Brush the tops of the dough rounds with egg wash and refrigerate overnight.

7. Place the dough rounds on a wire rack over a sheet pan and bake at 375°F/191°C until the exterior is a deep golden brown, about 40 minutes. Serve.

CHEF'S NOTE

You can add sautéed garlic or other flavoring to the cheese before sealing it in the puff pastry dough. The cheese alone has very little flavor.

SPINACH FETA QUICHE

MAKES 1 QUICHE (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
3-2-1 Pie Dough (page 231)	10 oz	280 g
Onion, chopped	2 oz	60 g
Butter	1 oz	30 g
Spinach	6 oz	170 g
Milk	6 oz	170 g
Heavy cream	6 oz	170 g
Eggs	4 oz	110 g
Egg yolks	2 oz	60 g
Salt	½ tsp	3 g
Ground black pepper	½ tsp	1 g
Feta, small cubes	2 oz	60 g

1. Roll out the pâte brisée ⅛ in/0.3 cm thick and line a pie pan. Line the pie shell with parchment paper and fill with dried beans or pie weights. Bake at 350°F/177°C until very light golden brown, about 15 minutes. Remove the parchment and weights and cool completely.

2. Sauté the onion in the butter until translucent. Add the spinach and cook until wilted. Drain and chop the leaves.

3. Combine the milk and cream in a saucepan and bring to a simmer.

4. Combine the eggs, egg yolks, salt, and pepper in a bowl, stirring with a whisk. Add about one-third of the hot milk mixture to the eggs while whisking constantly. Add the remaining hot milk mixture, stirring to incorporate.

5. Spread the spinach mixture in the tart shell and sprinkle the cheese on top. Pour the custard mixture over the top.

6. Place the pie pan on a sheet pan and bake at 350°F/177°C just until the custard is set, about 45 minutes. Serve warm, at room temperature, or chilled.

VARIATIONS

QUICHE LORRAINE *Omit the spinach, onion, and feta. Use 8 oz/230 g grated Gruyère and 8 oz/230 g bacon, diced, rendered, and drained. Make the custard as directed above, fill the shell, and bake as directed.*

THREE-CHEESE QUICHE *Omit the spinach, onion, and feta. Use 8 oz/230 g grated Gruyère, 8 oz/230 g drained ricotta, and 6 oz/170 g grated Parmesan. Make the custard as directed above, fill the shell, and bake as directed.*

SPINACH AND GOAT CHEESE QUICHE

MAKES 1 QUICHE (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
3-2-1 Pie Dough (page 231)	10 oz	280 g
Vegetable oil	1 oz	30 g
Onion, minced	2¼ oz	60 g
Spinach leaves	8 oz	230 g
Salt	½ tsp	3 g
Ground black pepper	¼ tsp	0.5 g
Heavy cream	6 oz	170 g
Eggs	2	2
Fresh goat cheese, crumbled	1½ oz	40 g
Parmesan, grated	¾ oz	20 g
Sun-dried tomatoes, chopped	1 oz	30 g

1. Roll out the pie dough ⅛ in/0.3 cm thick and line a pie pan. Line the crust with parchment paper and fill with dried beans or pie weights. Bake at 350°F/177°C until very light golden brown, about 15 minutes. Remove the parchment and weights and cool completely.

2. Heat the oil in a large sauté pan over medium heat. Add the onion and sauté, stirring frequently, until translucent, 3 to 4 minutes. Add the spinach and sauté until very hot, about 4 minutes. Remove from the heat. Season with ¼ tsp/1.25 g of the salt and a pinch of the pepper.

3. Transfer to a colander and let the spinach drain and cool while preparing the custard. Chop the spinach after it is cool.

4. Whisk together the cream and eggs. Stir in the goat cheese, Parmesan, sun-dried tomatoes, and spinach. Season with the remaining salt and pepper. Spread the mixture evenly over the crust.

5. Place the pie pan on a sheet pan and bake at 350°F/177°C until a knife blade inserted in the center comes out clean, 40 to 45 minutes. If the crust begins to overbrown, cover the edges with strips of aluminum foil or a pie shield.

6. Remove the quiche from the oven and cool on a rack. Let the quiche rest for at least 20 minutes before cutting. Serve hot, warm, or at room temperature.

CARAMELIZED ONION QUICHE

MAKES 1 QUICHE (9 IN/23 CM)

INGREDIENT	U.S.	METRIC
3-2-1 Pie Dough (page 231)	10 oz	280 g
Extra virgin olive oil	1 oz	30 g
Yellow onions, thinly sliced	7½ oz	210 g
Heavy cream	6 oz	170 g
Milk	6½ oz	180 g
Eggs	6 oz	170 g
Salt	½ tsp	3 g
Ground black pepper	¼ tsp	0.5 g
Provolone, grated	12 oz	340 g

1. Roll out the pie dough ⅛ in/0.3 cm thick and line a pie pan. Line the crust with parchment paper and fill with dried beans or pie weights. Bake at 350°F/177°C until very light golden brown, about 15 minutes. Remove the parchment and weights and cool completely.

2. Heat the olive oil in a sauté pan over medium heat. Add the onions and sauté, stirring frequently, until golden and very soft (caramelized), about 15 minutes. Remove and reserve.

3. Whisk together the cream, milk, eggs, salt, and pepper in a medium bowl. Stir in the onions and 8 oz/230 g of the cheese. Pour the egg mixture evenly into the crust. Sprinkle the remaining cheese evenly over the top of the quiche.

4. Place the pie pan on a sheet pan and bake at 350°F/177°C until a knife blade inserted in the center comes out clean, 40 to 45 minutes. If the crust begins to overbrown, cover the edges with strips of aluminum foil or a pie shield.

5. Remove the quiche from the oven and cool on a rack. Let the quiche rest for at least 20 minutes before cutting. Serve hot, warm, or at room temperature.

HERBED POTATO PIE

MAKES 5 PIES (9 IN/23 CM EACH)

INGREDIENT	U.S.	METRIC
Blitz Puff Pastry (page 247)	3 lb 12 oz	1.70 kg
Russet potatoes, sliced ¼ in/0.6 cm thick, parcooked halfway	5 lb	2.27 kg
Kosher salt	1 oz	30 g
Ground white pepper	As needed	As needed
Sour cream	1 lb	450 g
Green onions, sliced	1 bunch	1 bunch
Dill, chopped	1 bunch	1 bunch

1. Cut the puff pastry into 5 pieces. Roll each piece into a disk 2 in/5 cm wider in diameter than a 9-in/23-cm pie pan.

2. Line the pie pans with the dough, leaving the additional dough as an overhang.

3. For the filling, combine the potatoes, salt, pepper, sour cream, green onions, and dill. Divide the filling among the pie pans and bring the overhanging dough up and over the filling. Pleat the dough to cover the filling; there will be a hole in the middle with uncovered filling.

4. Bake at 425°F/218°C until golden brown and cooked through, about 1 hour.

5. Cool slightly before cutting.

CHEDDAR CHEESE WAFERS

MAKES 120 WAFERS

INGREDIENT	U.S.	METRIC
All-purpose flour	1 lb 2 oz	510 g
Cayenne	½ tsp	1 g
Salt	1 tsp	3 g
Ground black pepper	½ tsp	1 g
Butter, room temperature	1 lb	450 g
Cheddar, shredded	1 lb	450 g
Eggs	2 oz	60 g
Sesame seeds, for garnish	As needed	As needed

1. Sift together the flour, cayenne, salt, and pepper.

2. Mix the butter with the paddle attachment on medium speed until soft, 2 to 3 minutes.

3. Add the Cheddar and mix until thoroughly incorporated, about 1 minute. Add the eggs and mix on low speed until fully combined.

4. Add the sifted flour mixture and mix on low speed until just combined. Scrape down the bowl as necessary.

5. Transfer the dough to a parchment-lined sheet pan and spread it so that it is no higher than the edge of the pan. Wrap tightly in plastic wrap.

6. Place the dough in the refrigerator overnight or in the freezer until thoroughly chilled, at least 30 minutes.

7. Turn out the dough onto a lightly floured work surface. Slice the dough into 3-in/8-cm strips. Cut the strips to make ¼-in/0.6-cm wafers. Press sesame seeds gently into the dough.

8. Place the wafers on a parchment-lined sheet pan.

9. Bake at 350°F/177°C until light brown, 25 to 30 minutes. Cool completely on racks. Store in an airtight container until ready to serve.

HAM AND CHEESE CRESCENTS

MAKES 70 CRESCENTS

INGREDIENT	U.S.	METRIC
Butter Puff Pastry Dough (page 244)	3 lb	1.36 kg
Prepared mustard	As needed	As needed
Swiss cheese	12 oz	340 g
Ham	12 oz	340 g
Egg Wash (page 1064)	As needed	As needed

1. Roll out the puff pastry to ⅛ in/0.3 cm thick. Using a pizza wheel, cut into 3¾-in/10-cm squares. Cut the squares in half on the diagonal to make even triangles.

2. Using a small paper cone, pipe a pea-size dot of mustard onto each triangle.

3. Cut the cheese and ham into 3½-in/9-cm batons. Place one cheese and one ham baton down the middle of each triangle. Brush the tips of the triangles with egg wash.

4. Roll up the triangle in the same shape as a croissant, starting at the long side opposite the tip first, rolling so that the tip ends up on the underside of the roll. Brush the crescents with egg wash.

5. Bake at 375°F/191°C until the bottoms are a dark golden brown, 12 to 15 minutes. Cool on the baking pans. Serve.

VARIATION

BROCCOLI CHEESE CRESCENTS *Substitute 12 oz/340 g chopped blanched broccoli florets for the ham.*

BLUE CHEESE TART

MAKES 5 TARTS (4 IN/10 CM EACH)

INGREDIENT	U.S.	METRIC
Pâte Brisée (page 231)	1 lb	450 g
Cream cheese	8 oz	230 g
Blue cheese	8 oz	230 g
Eggs	4 oz	110 g
Sour cream	3 oz	90 g
Heavy cream	4 oz	110 g
Minced chives	1 tbsp	3 g
Minced flat-leaf parsley	1 tbsp	3 g
Minced thyme	2 tsp	2 g
Sautéed minced shallots	1 tsp	3 g
Salt	½ tsp	3 g
Ground white pepper	¼ tsp	0.5 g

1. Divide the dough into 5 parts, roll out ⅛ in/0.3 cm thick, and line 5 tart pans. Line the tart shells with parchment paper and fill with dried beans or pie weights. Bake at 350°F/177°C until very light golden brown, about 15 minutes. Remove the parchment and weights and cool completely.

2. Beat the cheeses with the paddle attachment on medium speed until smooth. Gradually add the eggs, mixing after each addition until fully incorporated and scraping down the sides of the bowl periodically. Incorporate the sour cream, heavy cream, chives, parsley, thyme, shallots, salt, and pepper and blend well.

3. Divide the filling among the prepared crusts and bake at 300°F/149°C until a knife blade inserted in the center comes out clean, about 20 minutes.

4. Remove from the oven and let the tarts rest for 10 to 15 minutes or more. Serve warm or at room temperature.

CREAMED WILD MUSHROOM TARTLETS

MAKES 30 PIECES

INGREDIENT	U.S.	METRIC
Pâte Brisée (page 231)	1 lb	450 g
Dry Jack cheese, finely grated	2 oz	60 g
Flat-leaf parsley, chopped	1 oz	30 g
Ground black pepper	2 tsp	4 g
Assorted wild mushrooms (shiitake, porcini, oyster, etc.), small dice	1 lb	450 g
Shallots, minced	2	2
Butter	2 oz	60 g
Brandy	½ oz	14 g
Sherry	½ oz	14 g
Heavy cream	2 oz	60 g

1. Roll out the dough ⅛ in/0.3 cm thick. Cut 30 rounds from the dough using a cutter 2 in/5 cm in diameter and press gently into 1¾-in/4-cm tart molds.

2. Cover the dough in the molds with a small piece of foil and fill with dried beans or pastry weights. Bake at 425°F/218°C until golden brown, about 5 minutes. Remove the foil and weights.

3. Combine the cheese, parsley, and pepper and reserve.

4. Sauté the mushrooms and shallots in the butter until the mushrooms are golden brown. Add the brandy, sherry, and cream.

5. Fill each tartlet with ½ oz/14 g of the mushroom mixture while still warm and top with a sprinkle of the cheese mixture.

6. Serve warm.

PETITE BOUCHÉE AUX DUXELLES

MAKES 40 PIECES

INGREDIENT	U.S.	METRIC
Butter Puff Pastry Dough (page 244)	3 lb	1.36 kg
Egg Wash (page 1064)	As needed	As needed
Mushrooms, finely chopped	1 lb 8 oz	680 g
Shallots, minced	2 oz	60 g
Butter	As needed	As needed
Brandy	½ oz	14 g
Salt	As needed	As needed
Ground white pepper	As needed	As needed

1. Roll out the dough ½ in/1 cm thick. Cut 40 rounds from the dough using a fluted cutter 2 in/5 cm in diameter.

2. Brush the dough rounds with egg wash and place on parchment paper-lined sheet pans. Place back in the freezer if the rounds get too soft.

3. Using a 1-in/3-cm round cutter, cut three-quarters of the way through the puff rounds. Make sure you do not cut all the way through.

4. Bake the dough rounds at 375°F/191°C, placing a wire rack over them on the sheet pan to help keep a uniform height. Bake until the bouchées are golden brown, about 10 minutes. Once the bouchées have cooled slightly, remove the cut centers with a sharp knife and reserve.

5. Sauté the mushrooms and shallots in butter. Just before the liquid has all evaporated, deglaze the pan with the brandy. Season with salt and pepper as needed.

6. Fill each bouchée with ½ oz/14 g of the mushroom mixture. Replace the reserved top as a cap. Serve warm.

WILD MUSHROOM PIZZA

MAKES 25 PIZZAS (12 IN/30 CM EACH)

INGREDIENT	U.S.	METRIC
Butter	4 oz	110 g
All-purpose flour	2½ oz	70 g
Milk	3 lb	1.36 kg
Extra virgin olive oil	10 oz	280 g
Oyster mushrooms, stemmed	2 lb 8 oz	1.13 kg
White mushrooms, sliced	1 lb 4 oz	570 g
Shiitake mushrooms, stemmed	1 lb 4 oz	570 g
Dried morels, rehydrated	1¼ oz	40 g
Dried porcini, rehydrated and chopped	1¼ oz	40 g
Shallots, minced	1¼ oz	40 g
Garlic, chopped	1 oz	30 g
Port wine	1 lb 8 oz	680 g
Chopped parsley	2 tsp	2 g
Chopped thyme	2 tsp	2 g
Chopped tarragon	2 tsp	2 g
Ground nutmeg	1 tsp	2 g
Salt	1 tbsp	18 g
Ground black pepper	1 tsp	2 g
Mascarpone	6½ oz	180 g
Durum Pizza Dough rounds (page 139)	25	25
Aged Monterey Jack, grated	2 lb 6 oz	1.08 kg
Parmesan, grated	1 lb 3 oz	540 g
Chives, minced	1 oz	30 g

1. Melt ½ oz/14 g of the butter in a saucepot. Add the flour, stirring to incorporate, and cook over medium heat, stirring constantly, for 5 minutes. Do not let the roux develop any color.

2. Gradually add the milk, whisking constantly. Cook, stirring constantly, until the sauce coats the back of a spoon. Remove from the heat.

3. Melt the remaining 3½ oz/100 g butter with the olive oil in a saucepan over medium heat. Add all the mushrooms and sauté until lightly browned, about 10 minutes.

4. Add the shallots and garlic and sauté until aromatic. Deglaze the pan with the port and reduce for several minutes until most of the liquid has evaporated. Add the parsley, thyme, tarragon, nutmeg, salt, and pepper. Stir in the white sauce.

5. For each pizza, place a dough round on an oven peel or sheet pan that has been dusted with semolina flour. Spread 5 oz/140 g of the mushroom sauce on the dough. Top with 1½ oz/40 g of the Jack cheese, ¾ oz/20 g of the Parmesan, and about 1 tsp/1 g of the chives.

6. Bake in a 500°F/260°C deck oven until golden brown around the edges, 3 to 4 minutes. Serve at once.

MARGHERITA PIZZA

MAKES 25 PIZZAS (12 IN/30 CM EACH)

INGREDIENT	U.S.	METRIC
Garlic, minced	2½ oz	70 g
Extra virgin olive oil	1 lb 4 oz	570 g
Tomatoes (canned crushed), drained	3 lb 12 oz	1.70 kg
Salt	2 tsp	12 g
Ground black pepper	2 tsp	4 g
Chopped rosemary	1 tbsp	6 g
Durum Pizza Dough rounds (page 139)	25	25
Semolina flour	As needed	As needed
Mozzarella, grated	3 lb 2 oz	1.42 kg
Parmesan, grated	12½ oz	350 g
Basil, chiffonade	1½ oz	40 g

1. Sweat the garlic in the olive oil over low heat until translucent, about 6 minutes.

2. Add the tomatoes, salt, and pepper. Cook covered over medium heat until the sauce has thickened slightly and has a good aroma, about 30 minutes.

3. Add the rosemary and cook for 15 minutes.

4. For each pizza, place a dough round on an oven peel or sheet pan dusted with semolina flour. Cover the dough with 3 oz/90 g of the sauce, leaving a ½-in/1-cm border. Top with 2 oz/60 g of the mozzarella, ½ oz/14 g of the Parmesan, and 1½ tsp/2 g of the basil.

5. Bake in a 500°F/260°C deck oven until golden brown around the edges, 3 to 4 minutes. Serve at once.

GOUGÈRES

MAKES 120 PIECES

INGREDIENT	U.S.	METRIC
Milk	12 oz	340 g
Water	12 oz	340 g
Butter	12 oz	340 g
Salt	Pinch	Pinch
Sugar	Pinch	Pinch
Bread flour	12 oz	340 g
Eggs	12 oz	340 g
Cayenne	Pinch	Pinch
Red pepper, brunoise	½ oz	14 g
Swiss cheese, grated	12 oz	340 g
Egg Wash (page 1064)	As needed	As needed
Parmesan, grated, for garnish	As needed	As needed

1. Bring the milk, water, butter, salt, and sugar to a boil over medium heat, stirring constantly.

2. Add the flour all at once, stirring vigorously to combine.

3. Cook the mixture over medium heat, stirring constantly until the mixture pulls away from the sides and a thin coating forms on the bottom of the pan.

4. Transfer the mixture to the mixer. Beat briefly with the paddle attachment on medium speed to cool the dough slightly. Add the eggs, a small amount at a time and beat until fully incorporated.

5. Add the cayenne, peppers, and Swiss cheese and mix until fully incorporated.

6. Using a pastry bag fitted with a #6 plain tip, pipe the dough into 1½-in/4-cm rounds onto a parchment-lined sheet pan. Brush with egg wash. Sprinkle the Parmesan on top.

7. Bake at 375°F/191°C until golden brown, 10 to 12 minutes.

VARIATIONS

HERB-TOMATO GOUGÈRES *Substitute olive oil for the butter. Increase the salt to 1 tbsp/12 g and omit the cayenne, red peppers, Swiss cheese, and Parmesan. Add to the dough in step 5: ½ tsp/1 g ground black pepper, 2 oz/60 g finely chopped oil-packed sun-dried tomatoes, 3 tbsp/9 g finely chopped basil, and 4 tsp/4 g finely chopped thyme. Pipe into domes approximately ¾ in/2 cm in diameter. Bake at 350°F/177°C for about 35 minutes.*

MINIATURE GOUGÈRES *Omit the red pepper and Parmesan and substitute Gruyère for the Swiss cheese. Pipe into domes approximately 1 in/2 cm in diameter. Bake at 350°F/177°C for about 35 minutes.*

SPANAKOPITA

MAKES 42 PIECES

INGREDIENT	U.S.	METRIC
Butter	3 oz	90 g
Shallots, minced	2 oz	60 g
Garlic cloves, minced	4	4
Spinach, stemmed	3 lb	1.36 kg
Feta, crumbled	1 lb	450 g
Pine nuts, toasted	3 oz	90 g
Salt	As needed	As needed
Ground black pepper	As needed	As needed
Phyllo dough, 14 by 18-in/35 by 45-cm sheets	1 lb	450 g
Butter, melted	As needed	As needed

1. Melt the butter in a sauté pan over moderate heat until it starts to bubble. Add the shallots and garlic and sweat until translucent.

2. Add the spinach and sauté gently until the spinach is wilted, 1 to 2 minutes. Transfer the spinach mixture to a stainless-steel bowl and cool to room temperature.

3. Add the cheese and nuts and season with salt and pepper. Refrigerate until needed.

4. Lay 1 sheet of phyllo dough on a cutting board. Brush lightly with melted butter. Place another sheet of phyllo dough directly on the buttered sheet and brush it lightly with butter. Repeat with a third sheet of phyllo. Keep the remainder of the phyllo dough covered until needed, to prevent drying out.

5. Cut the phyllo dough lengthwise into 6 even strips. Place 1 oz/30 g of spinach filling on the bottom right corner of each strip. Fold the bottom right corner of the strip diagonally to the left side of the strip to create a triangle of dough encasing the filling. Fold the bottom left point of the dough up along the left side of the dough to make a triangle and seal in the filling.

6. Fold the bottom left corner of the dough diagonally to the right side of the dough to form a triangle. Fold the bottom right point up along the right edge of the dough. Repeat until the end of the dough is reached and you have a triangle of layered phyllo dough with the filling wrapped inside. Place the phyllo triangle on a parchment-lined sheet pan and brush with melted butter.

7. Repeat with each strip. Then repeat with the remaining phyllo sheets and filling. Bake at 375°F/191°C until golden brown, about 15 minutes. Serve.

Place the filling on the bottom right corner of each strip. Fold to make a triangle and seal in the filling.

SAVORY CHURROS

MAKES 24 CHURROS

INGREDIENT	U.S.	METRIC
Whole milk	4 oz	110 g
Water	4 oz	110 g
Salt	Pinch	Pinch
Sugar	Pinch	Pinch
Butter	1½ oz	40 g
All-purpose flour	2¼ oz	60 g
Bread flour	2¼ oz	60 g
Eggs, beaten	4 oz	110 g
Ham, small dice	2¼ oz	60 g
Jalapeño Jack, shredded	2¼ oz	60 g
Vegetable oil, for frying	As needed	As needed
Salt	As needed	As needed
Cayenne pepper	As needed	As needed

1. Bring the milk, water, salt, sugar, and butter to a boil and remove from the heat for a few seconds.

2. Sift together the flours. Add flours to the pan and stir briefly, allowing the flours to hydrate for a few seconds.

3. Return the pan to the stove over a moderate heat and stir vigorously until the dough is dry and pulls away from the sides and a thin coating forms on the bottom of the pan.

4. Place the dough in a mixer fitted with a paddle attachment. Mix on low speed and cool slightly. Add the eggs, a small amount at a time and beat until fully incorporated.

5. Allow the dough to cool to about room temperature. Add the cheese and ham and mix to distribute evenly.

6. Chill in the refrigerator for 5 minutes. Place in piping bag fitted with a medium star tip.

7. Prepare twenty-four 3-in/8-cm parchment paper strips and lightly oil the paper. Pipe 3-in/8-cm churros onto the strips and chill to cook to order.

8. Heat vegetable oil to 310°F/154°C. To cook the churros, lower the strip of paper into the hot oil, then gently pull away the paper; the churro will release from the paper. The churros will eventually float and turn themselves as they cook; they will take 3 to 4 minutes to fully cook.

9. Drain on wire rack and sprinkle with salt and cayenne.

CRABMEAT AND AVOCADO PROFITEROLES

MAKES 30 PIECES

INGREDIENT	U.S.	METRIC
Pâte à Choux (page 240)	2 lb	900 g
Egg Wash (page 1064)	As needed	As needed
Crabmeat, cleaned	4 oz	110 g
Avocado, ripe, small dice	½	½
Lime juice	2 oz	60 g
Buttermilk	½ oz	14 g
Minced chives	1 tsp	1 g
Minced cilantro	1 tsp	1 g
Salt	As needed	As needed
Cayenne	As needed	As needed

1. Using a pastry bag fitted with a #5 plain tip, pipe the pâte à choux into 30 bulbs, 1½ in/4 cm in diameter, onto parchment-lined sheet pans. Brush lightly with egg wash.
2. Bake at 360°F/182°C until the cracks formed in the pastries are no longer yellow, about 50 minutes. Cool to room temperature. Slice the top off each of the baked pastries and reserve.
3. Combine the crabmeat, avocado, lime juice, and buttermilk. Fold in the chives and cilantro and season with salt and cayenne.
4. Fill the puffs with the crabmeat mixture. Replace the tops and serve immediately.

PALMIERS WITH PROSCIUTTO

MAKES 35 TO 40 PIECES

INGREDIENT	U.S.	METRIC
Blitz Puff Pastry (page 247)	8 oz	230 g
Tomato paste	2½ oz	70 g
Prosciutto, 12 thin slices	5 oz	140 g
Parmesan, finely grated	¾ oz	20 g

1. Roll the pastry dough into a 10-in/25-cm square. Brush one-half of the pastry with the tomato paste. Lay the prosciutto over the tomato paste, then dust with some of the cheese.

2. Fold the 2 outer quarters of the dough toward each other to meet in the middle, leaving a ½-in/1-cm gap. Sprinkle the remaining cheese on top of the length of the dough. Complete the book fold (see page 229). Cover the dough and refrigerate until firm, about 1 hour.

3. Slice the dough ¼ in/0.6 cm thick and lay flat on parchment-lined baking sheets. Place a sheet of parchment paper on top to help keep the palmiers a uniform height. Bake at 400°F/204°C until golden brown, about 10 minutes. Remove the top paper for the last few minutes of baking to allow for browning. Transfer to racks to cool. Store in airtight containers.

MUSHROOM BRUSCHETTA

MAKES 20 BRUSCHETTA

INGREDIENT	U.S.	METRIC
Oyster mushrooms	1 lb	450 g
Olive oil	3½ oz	100 g
Minced garlic	2 tsp	6 g
Chopped thyme	2 tsp	2 g
Minced oregano	2 tsp	2 g
Chopped marjoram	2 tsp	2 g
Salt	As needed	As needed
Ground black pepper	As needed	As needed
Lean Dough with Poolish, baked as baguette (page 162)	5 in	12 cm

1. Trim the mushrooms and gently rub off any dirt with paper towels.

2. Heat 2 oz/60 g of the oil over low heat. Sauté the mushrooms in the oil until lightly caramelized. Add the garlic and continue sautéing until fragrant.

3. Add the thyme, oregano, and marjoram. Remove the pan from the heat. Season well with salt and pepper.

4. Cut the baguette into slices about ¼ in/0.6 cm thick, brush with the remaining oil, and toast in a 375°F/191°C oven until lightly golden along the edges, about 10 minutes.

5. Top each toast with about ¾ oz/20 g sautéed mushrooms. Serve warm or at room temperature.

VARIATION

Grated cheese may be sprinkled on top and the bruschetta and finished under a broiler or in a hot oven.

BLACK BEAN EMPANADAS

MAKES 24 EMPANADAS

INGREDIENT	U.S.	METRIC
EMPANADA FILLING		
Olive oil	½ oz	14 g
Onion, small dice	1 oz	30 g
Minced garlic	¾ tsp	2 g
Ground cumin	¼ tsp	0.5 g
Dried Mexican oregano	¼ tsp	0.5 g
Black beans (cooked or canned), drained and rinsed	12 oz	340 g
Salt	1 tsp	6 g
Ground black pepper	¼ tsp	0.5 g
Water	1½ oz	40 g
Queso blanco, crumbled, or Cheddar, grated	1 oz	30 g
EMPANADA DOUGH		
All-purpose flour	3½ oz	100 g
Masa harina	2 oz	60 g
Baking powder	1½ tsp	4 g
Salt	¾ tsp	4.5 g
Canola oil or lard, melted and cooled	½ oz	14 g
Eggs	2	2
Water	1 oz	30 g
Egg Wash (page 1064)	As needed	As needed
Canola oil, for frying	1 lb 7 oz or as needed	650 g or as needed
Kosher salt, for garnish	As needed	As needed

1. To make the filling, heat the olive oil in a medium sauté pan over medium-high heat. Add the onion and garlic and sauté, stirring frequently, until tender, 3 to 4 minutes.

2. Stir in the cumin and oregano and cook for 30 seconds more. Add the beans and season with the salt and pepper.

3. Purée the bean mixture with the water. If the beans are too stiff to purée easily, add additional water as needed.

4. Transfer the bean purée to a bowl and stir in the cheese. The filling is ready to use immediately, or it can be stored in a covered container in the refrigerator for up to 2 days.

5. To prepare the dough, combine the flour, masa harina, baking powder, and salt in a bowl. Add the oil and mix by hand with a wooden spoon until evenly distributed.

6. In a small bowl, stir together the eggs and water. Add gradually to the flour mixture, stirring as you add.

7. Knead the dough until pliable, about 3 minutes. Adjust the consistency of the dough with more flour or water if needed.

8. To assemble the empanadas, roll out the dough ¹⁄₁₆ in/0.15 cm thick. Using a 3-in/8-cm round cutter, cut the dough into 24 circles.

9. Place 2½ tsp/12.50 mL of the filling on each circle. Brush the edges of the dough with the egg wash, fold in half, and seal the edges by crimping with the tines of a fork.

10. Place the empanadas on parchment-lined baking sheets, cover, and refrigerate until ready to use. They may be held under refrigeration for up to 24 hours or frozen for up to 3 weeks. Thaw completely in the refrigerator before frying.

11. Heat the oil in a deep fryer or deep skillet to 350°F/177°C. Add the empanadas to the hot oil a few at a time and fry until golden brown and crisp, turning if necessary to brown both sides evenly, 3 to 4 minutes.

12. Drain briefly on paper towels. Sprinkle with a little kosher salt and serve very hot.

20

PLATED DESSERTS

When designing a plated dessert, the pastry chef must consider the composition, exploring the possibilities of contrasting and complementing flavors and textures as well as color and style. Equally important to consider are the customer base, the specific event or menu needs, and the environment for preparation and service.

TRENDS IN PLATED DESSERTS

WHEN DESIGNING A DESSERT menu, it is essential to consider current trends to keep your menu fresh and interesting. Current trends range from the use of "architectural style" in assembling plated desserts to the deconstructed style where each component is presented separately on the plate. Sophisticated customers will likely expect to see such cutting-edge desserts on the menu.

Current trends also include a return to more rustic-style desserts such as galettes and "comfort food" like pies and cobblers. The appeal of these desserts lies in their simplicity of flavor, style, and presentation. Plated desserts are also featuring components that are created using techniques such as spherification, foams, and gels. These items can be the main component on a plate or used as an accent. The key is to remember to focus on flavor on the plate and to ensure that all of the components come together in a cohesive way.

It's also important to look at classic desserts with a contemporary eye and perhaps introduce ingredients that are not typical for the particular preparation to give them new life.

CONTRAST: FLAVOR, TASTE, TEXTURE, TEMPERATURE, AND EYE APPEAL

THE PASTRY CONTRAST TABLE that follows is a visual guide to understanding the basic characteristics that can be used by the pastry chef in the creation of a plated dessert. When conceptualizing desserts, think about incorporating a number of contrasting characteristics into the dessert by using different components, but never add components just to have another contrasting element. The number of components should make sense for the dessert.

Keep the idea of contrast in mind when adding new desserts to a current menu or designing a new menu. A balanced menu should contain warm and cold, sweet and tart, and rich and lean desserts.

Combining contrasting elements on one dessert plate will keep the palate interested and excited. The classic apple pie à la mode is a perfect example. Think of how it relates to the contrast table: An exceptional apple pie will have a crisp, flaky crust and perhaps a filling that still retains a little tartness from the apples, while the ice cream will lend its creamy, soft nature. The pie should be served warm to bring out its flavors and aromas, as well as to provide temperature contrast with the cold ice cream.

Contrasting elements in a plated dessert are divided among flavor and aroma, taste, texture, temperature, and eye appeal. When using the following chart, keep a generic understanding of culture and regional availability of ingredients to ensure the most successful combinations. Flavor and taste combinations are the most interrelated components on this chart. Depending on your selection of ingredients, one will naturally follow the other. Also keep in mind that sweetness will vary only in intensity, but will be a component of all desserts to some degree.

The object of the textural component is to have a balance of mouthfeel—too much crunch is not necessarily a good thing. It is also important to be aware of the temperature of the components on any plate or menu. While each plate does not necessarily need contrasting elements of temperature, a menu should certainly present the spectrum.

Presentation does not mean the plate needs to be intricately presented. Today, one of the biggest trends is toward minimalism: presenting authentic, natural flavors in as fresh and simple a manner as possible.

Contrast Table

SEASONALITY	FLAVOR AND AROMA	TASTE	TEXTURE	TEMPERATURE	PRESENTATION
Fall	Chocolate	Sweet	Crunchy	Frozen	Shape
Spring	Vanilla	Salty	Crisp	Chilled	Volume
Summer	Fruit	Bitter	Brittle	Cool	Color
Winter	Spice	Acidic	Chewy	Room temperature	Visual
	Nut	Umami	Creamy	Warm	
			Liquid	Hot	
			Icy		
			Tender		
			Cakey		

RESTAURANT DESSERTS

USE THE CONTRAST TABLE to help create a restaurant menu. It will help keep every plate fresh, different, and original. Remember that some desserts will not be practical because of a particular kitchen setup.

A restaurant menu should change with every season; however, you will always have a few items that will remain constant, with only the garnish changing. Maintaining seasonality with your menu will keep better costs as well as better flavors. It will also make marketing easier, as the freshest items will have the best flavors and will appeal more to the customers. Use specials to highlight ingredients at their seasonal peak. A good barometer for the success of a dessert is how well it sells, but also keep in mind that items that don't sell well may have a poor placement or wording on the menu; if corrected, an item that used to be problematic could become one of the best sellers.

A key ingredient to the success of any dessert menu is the preservice meeting. You have to make the wait staff aware of your food. They should hear about it and taste it to become excited about it. Often items that sell well are favorites of the wait staff.

DESSERT STATION MISE EN PLACE

WHEN SETTING UP A dessert station, whether for a large banquet kitchen or a small restaurant, there are several important considerations. The size and configuration of the work area, as well as its location in relation to the ovens, refrigerators, and freezers, determine how certain jobs are accomplished. For example, if you are preparing a hot soufflé, the location of the oven is an important factor in determining how and where the soufflé will be plated. In the same vein, if you are plating frozen desserts, the location of and access to freezer space must be considered. Keep often-used items within easy reach, and easy to see. Keep efficient workflow in mind, too—plates should move in a single direction.

The station must typically be able to accommodate a variety of service pieces. Some pieces may need to be kept hot or cold for service. During service, you will also need to have a variety of nonfood items at hand: paper and side towels, skewers or toothpicks, latex gloves, and equipment such as palette knives and pastry bags. Returning items to their rightful position each time you use them will help you become more efficient and avoid lost time spent searching for missing items.

Keep sauces that are to be used in plastic squeeze bottles or a funnel dropper. These give you more control over the amount and location of the sauce on the plate or dessert and make it easy to store the sauces at the station.

To keep the station clean and sanitary, have a container of sanitizing solution available, as well as clean cloths or paper towels and hot water to wipe plates before they leave the station.

PLATING FROZEN DESSERTS

FROZEN DESSERTS ARE AN important component of any dessert menu. While frozen desserts are commonly used as complementary components of various plated desserts, they can also serve as the main component. They can be produced in many and varied flavors, are suitable for use with different types of containers, such as tuile cookies or molded chocolate cups, and can be molded in any variety of forms. They work well in an endless number of combinations. Of course, successful plated frozen desserts rely on conveniently located freezer space for storage and service.

PLATED DESSERTS AT BANQUETS

IN MOST CASES, ANY dessert that can be prepared and served for ten can also be served for a hundred. However, for larger-volume plating, equipment, storage, timing of service, and labor must all be considered.

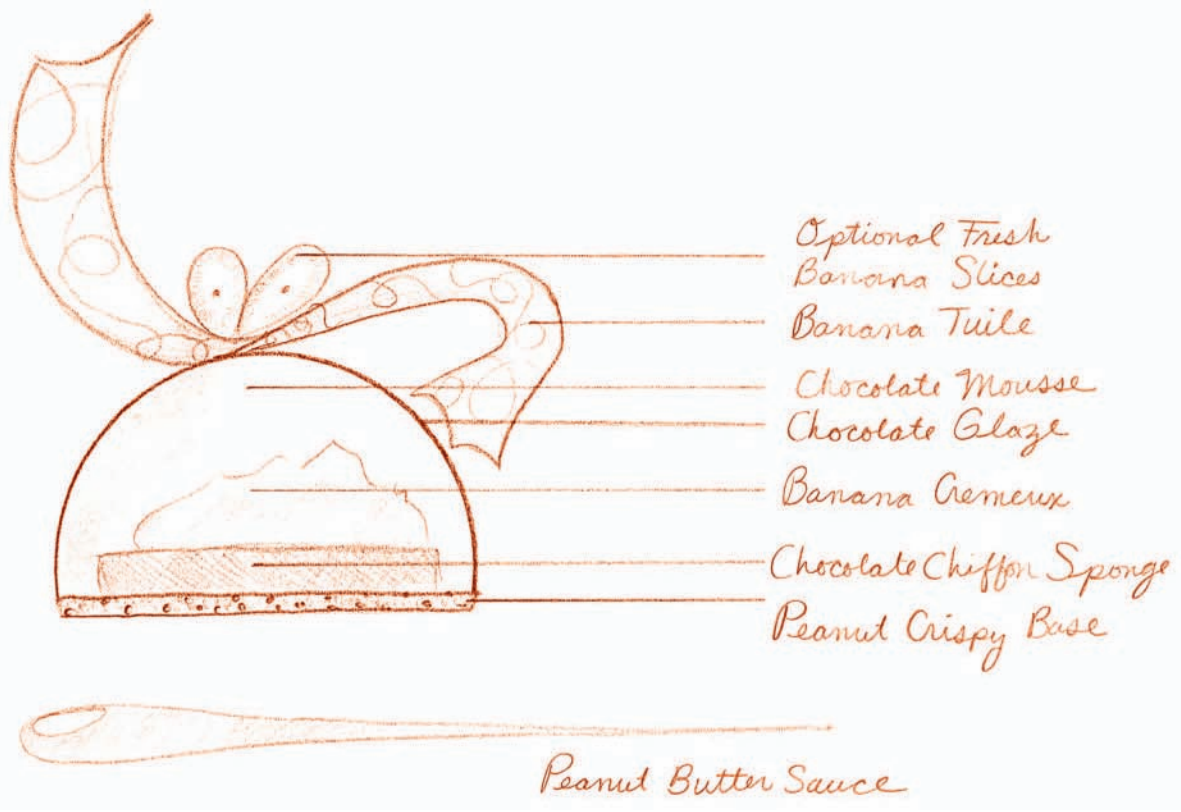
When planning a dessert for a banquet menu, consider the general concept of the dessert. Certain restrictions may immediately become apparent. Lack of equipment (not enough of a particular mold, for example) might force you to change the shape or look of a dessert. Timing can sometimes be a restrictive element for preparations such as hot soufflés, and in some cases you may want to reformulate the dessert to increase its shelf life.

Banana-Peanut-Chocolate Dome

BANANA-PEANUT-CHOCOLATE DOME

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Chocolate Chiffon Sponge (page 313)	1 lb 10 oz	740 g
Peanut Crispy Base (page 388)	5 oz	140 g
Banana Syrup (page 512)	10 oz	280 g
Dark Chocolate Mousse (page 431)	1 lb 5½ oz	610 g
Banana Cremeux (page 411), frozen, 1-in/3-cm disks	3 lb 12½ oz	1.72 kg
Chocolate Mirror Glaze (page 495)	1 lb 1¼ oz	490 g
Banana Tuiles (page 382)	15¾ oz	450 g
Peanut Butter Sauce (page 497)	8¾ oz	250 g
Peanuts, roasted and salted	20	20


Optional Fresh Banana Slices
Banana Tuile
Chocolate Mousse
Chocolate Glaze
Banana Cremeux
Chocolate Chiffon Sponge
Peanut Crispy Base
Peanut Butter Sauce

1. Cut the chocolate chiffon sponge and peanut crispy base into 4-in/10-cm rounds. Brush the sponge with the banana syrup to moisten. Press together 1 sponge round and 1 crispy base so they stick.

2. Place dome-shaped flexible silicone molds face down on a sheet pan. Using a pastry bag with a 1-in/3-cm opening, pipe the chocolate mousse three-quarters of the way up the mold.

3. Unmold the banana cremeux disks. Press the frozen disks into the mousse in the center of the dome mold, pressing down gently until the cremeux is level with the top of the mousse. Place a sponge–crispy base round on top of each mold, sponge side down, and gently press into the mold, completely filling it. Freeze until completely frozen, about 2 hours.

4. Unmold the domes and place on a wire rack over a sheet pan. Bring the chocolate mirror glaze to 90°F/32°C over barely simmering water, and using a 2-fl oz/60-mL ladle, pour the glaze evenly over the frozen domes, making sure the entire dome is covered.

5. Allow the domes to thaw for 3 hours under refrigeration before plating.

6. Place a glazed dome slightly off center on each plate. Spike a tuile into the dome as in the photo. Using a small spoon, spoon ½ oz/14 g of the peanut butter sauce onto each plate in a teardrop shape. Sprinkle some coarsely chopped salted peanuts on the sauce and serve.

NEW YORK CHEESECAKE

MAKES 10 DESSERTS

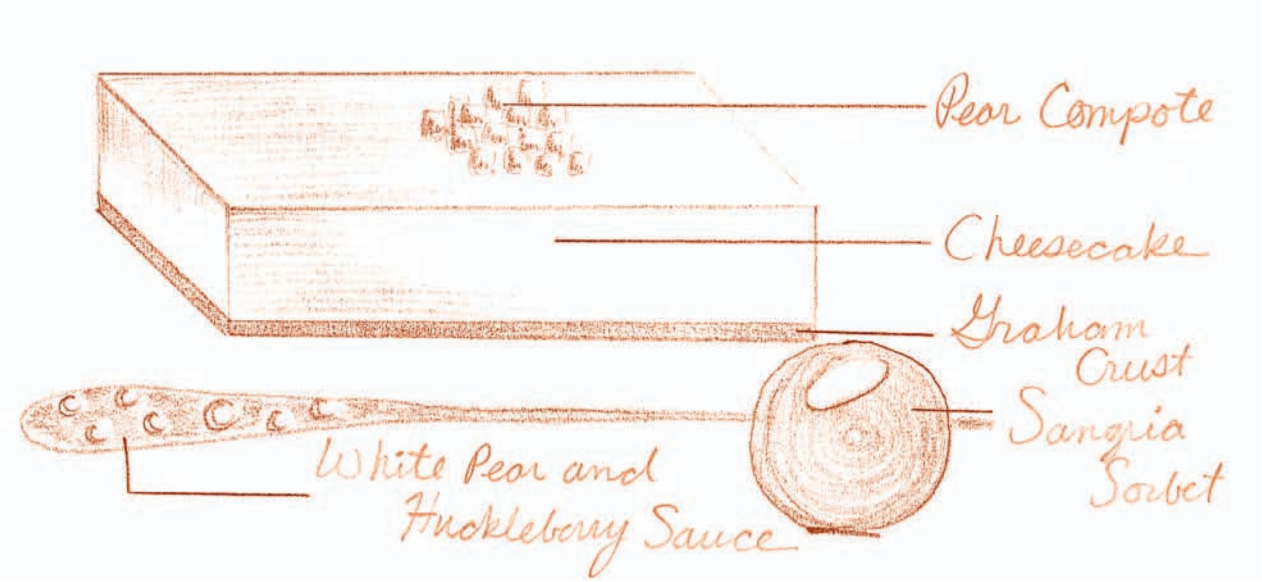
INGREDIENT	U.S.	METRIC
Cheesecake (page 405), sliced	10	10
Pear Compote (page 524)	5 oz	140 g
Light corn syrup	As needed	As needed
White Pear and Huckleberry Sauce (page 516)	5 oz	140 g
Spiced Wine Sorbet (page 594)	1 lb 4 oz	570 g

1. Slice the cheesecake into rectangles 2 by 3½ in/5 by 9 cm. Using a small spoon, place ½ oz/14 g of the pear compote on top of each portion of cheesecake.

2. Place a pea-size dot of corn syrup on the plate in the spot where the cheesecake is going to be. Place another pea-size dot of corn syrup in the spot on the plate where the sorbet will sit, approximately 3 in/8 cm away from the cheesecake.

3. Place the cheesecake on the corn syrup. Spoon ½ oz/14 g of pear sauce between the cheesecake and the other drop of corn syrup. Make sure there are whole huckleberries on each plate.

4. Using a #16 scoop, place 2 fl oz/60 mL of the sorbet on top of the remaining corn syrup on each plate.



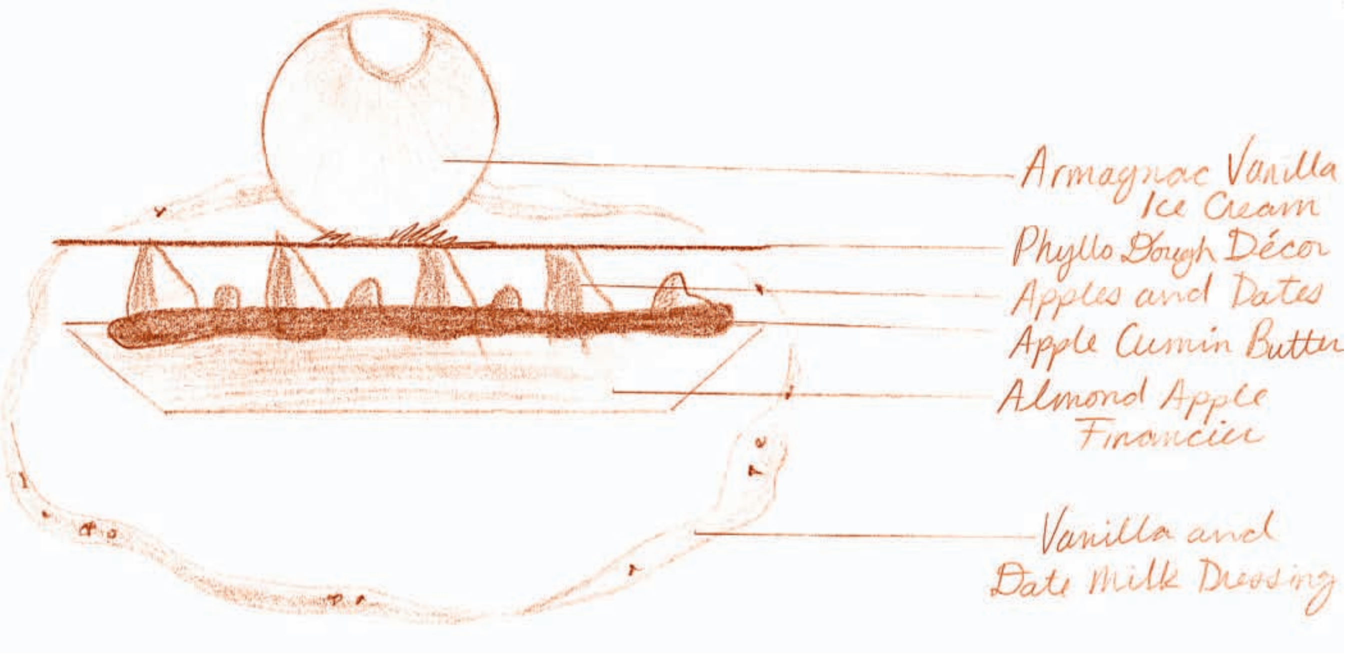
ALMOND APPLE FINANCIER WITH DATE DRESSING

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Almond Apple Financiers (page 318), frozen	10	10
Apple Cumin Butter (page 529)	7½ oz	210 g
Phyllo Dough Décor (page 391)	10	10
Vanilla and Date Milk Dressing (page 543)	10 oz	280 g
Armagnac Vanilla Ice Cream (page 571)	1 lb 4 oz	570 g

1. Unmold the apple-almond financier while still frozen. Let it sit and temper to room temperature. Once tempered, place financier on a diagonal in the center of the plate.

2. Using a small spoon, place a ¾-oz/20-g dollop of the apple butter in the center of the cake. Place 1 phyllo dough décor on top of the apple butter and gently press down to securely adhere the décor to the butter. Spoon out the date dressing in one corner of the plate in a swooping motion to form a half moon shape. Using two soup spoons, shape a quenelle out of the ice cream, and place on top of the phyllo.


Armagnac Vanilla Ice Cream
Phyllo Dough Décor
Apples and Dates
Apple Cumin Butter
Almond Apple Financier
Vanilla and Date Milk Dressing

PAIN PERDU

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Butter, soft, or cooking spray	As needed	As needed
Orange Brioche Dough (page 145)	1 lb 4 oz	570 g
Crème Caramel with Grand Marnier (page 415), hot	11¾ oz	330 g
Clarified butter or oil	As needed	As needed
Light corn syrup	As needed	As needed
Tuiles*	10	10
Citrus Sauce (page 509), plus 30	7½ oz	210 g
Orange suprêmes	30	30
Candied Orange Peel strips (page 938)	30	30
Lemon Verbena Ice Cream (page 576)	1 lb 4 oz	570 g

* Which tuile to use is up to the pastry cook. Any tuile will work well.

1. Butter 10 rings 2½ in/6 cm in diameter and 1½ in/4 cm high, or spray lightly with cooking spray, and place on a sheet pan lined with parchment paper. Scale the brioche dough into 10 pieces, 2 oz/60 g each, and roll into balls. Place each ball into a ring and proof at 80° to 85°F/27° to 29°C until doubled in size, 1½ to 2 hours.

2. Bake in a 375°F/191°C convection oven until golden brown, 15 to 20 minutes.

3. Remove the rings and place the brioches on a cooling rack. Using a serrated knife, trim the top and bottom of the brioches to leave each slice of brioche 1¼ in/3 cm thick.

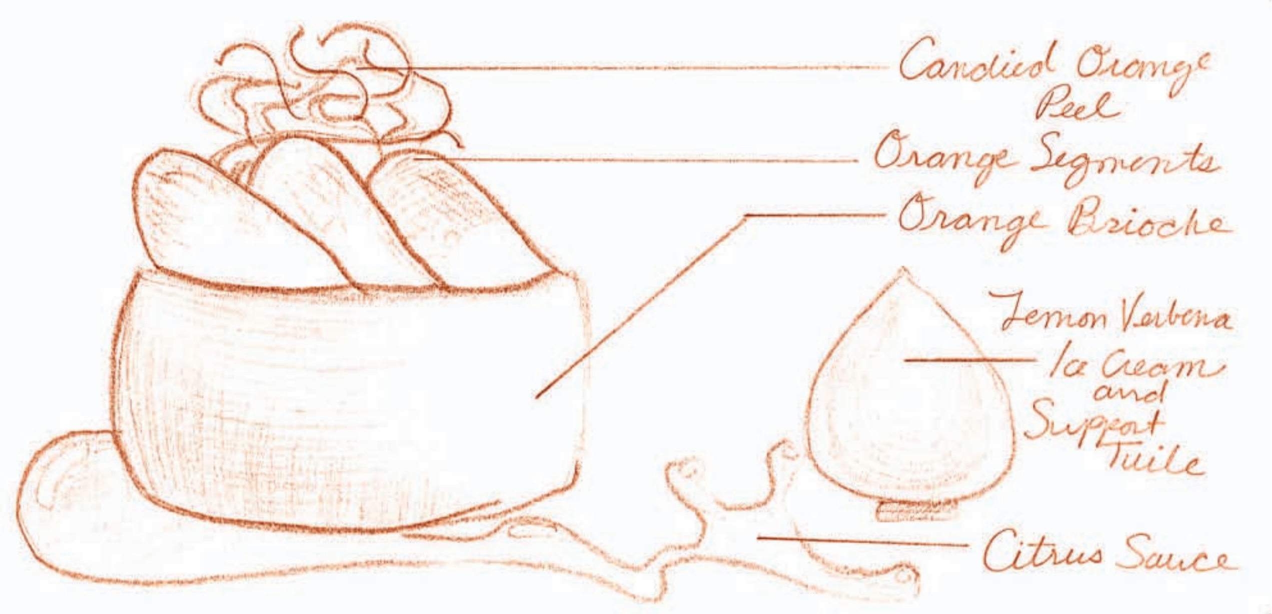
4. Strain the crème caramel into a half hotel pan. Soak the brioche rounds on one side until half of the liquid is absorbed, 2 to 3 minutes. Flip and soak the other side until there is no crème caramel left.

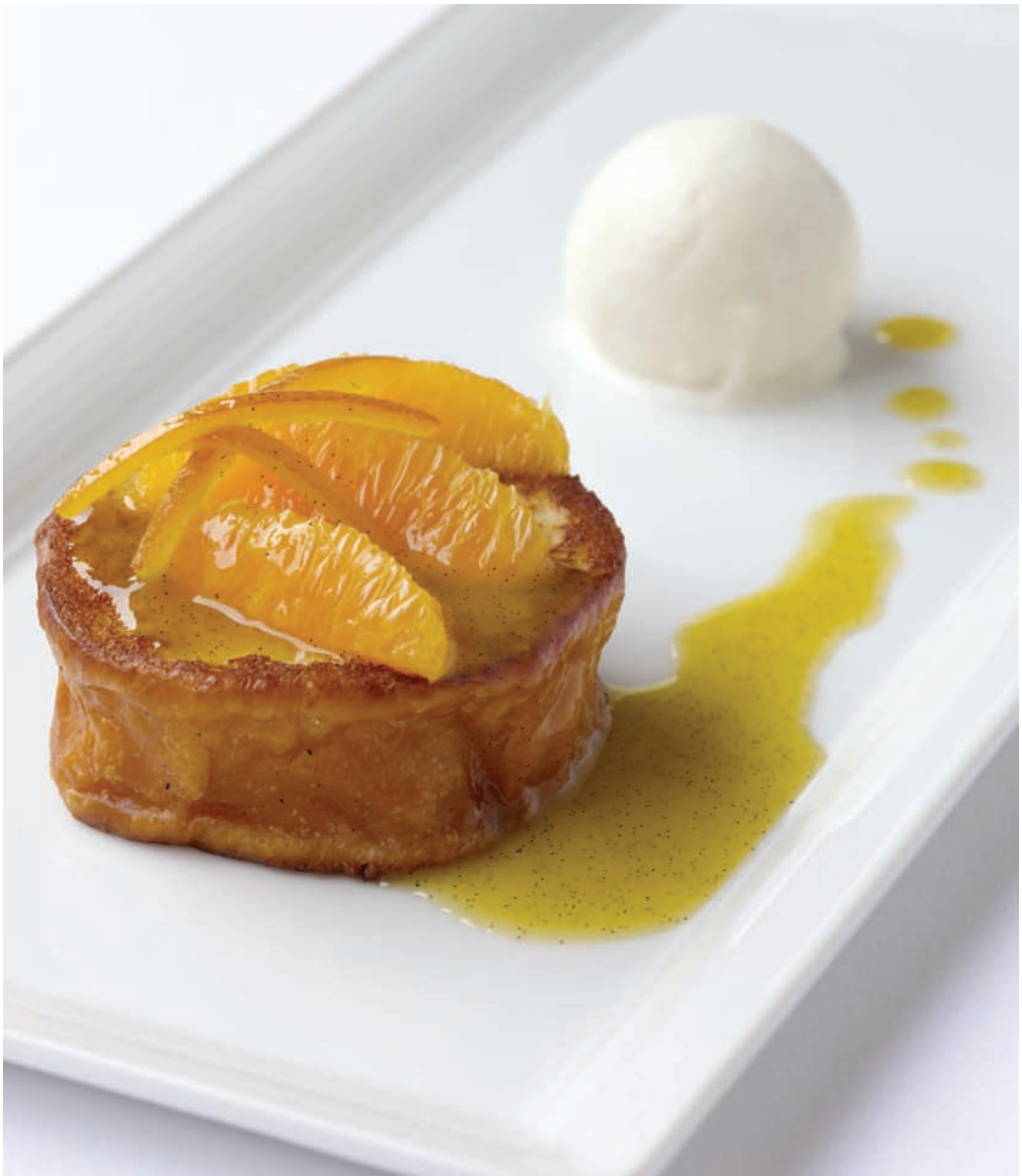
5. Heat a large nonstick sauté pan over low heat for 1 minute. Grease with clarified butter or oil. Place the soaked brioches in the pan and cook until golden brown, 1½ minutes on each side. Remove from the pan and place on a cooling rack; cover with plastic wrap while still warm and cool to room temperature.

6. To plate, place each brioche on a lightly greased sizzle platter and heat in a 350°F/177°C oven for 3 to 4 minutes.

7. Place a pea-size drop of corn syrup about 3 in/8 cm from where the brioche will lie. Place a tuile on top of the corn syrup. Place the brioche on the plate. Fan 3 orange suprêmes from the citrus sauce on top of the brioche. Pour ¾ oz/20 g of the citrus sauce over the orange suprêmes and onto the plate as in the photo. Place 3 strips of candied orange peel on top of the orange segments.

8. Using a #16 scoop, place 2 fl oz/60 mL of the ice cream on top of the tuile.


Candied Orange Peel
Orange Segments
Orange Brioche
Lemon Verbena Ice Cream and Support Tuile
Citrus Sauce



PRALINE PARFAIT DESSERT

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Swiss Meringue (page 476)	9 oz	260 g
Praline Parfaits (page 610), frozen in 2-in/5-cm molds	10	10
Spraying Chocolate (page 544)	16 oz	450 g
Chocolate Sauce (page 500)	10 oz	280 g
Dacquoise (see Chef's Notes)	10	10

1. Place the Swiss meringue in a piping bag with a sultan tip. Place the tip of the piping tip ¼ in/0.6 cm above a parchment-lined sheet pan and squeeze the bag firmly until the meringue touches the parchment and spreads out to form a hollow round. Bake at 200°F/93°C for 2 hours with the oven door cracked. Let the meringue cool on the sheet pan. Gently remove the meringue from the parchment and place in an airtight container until needed.

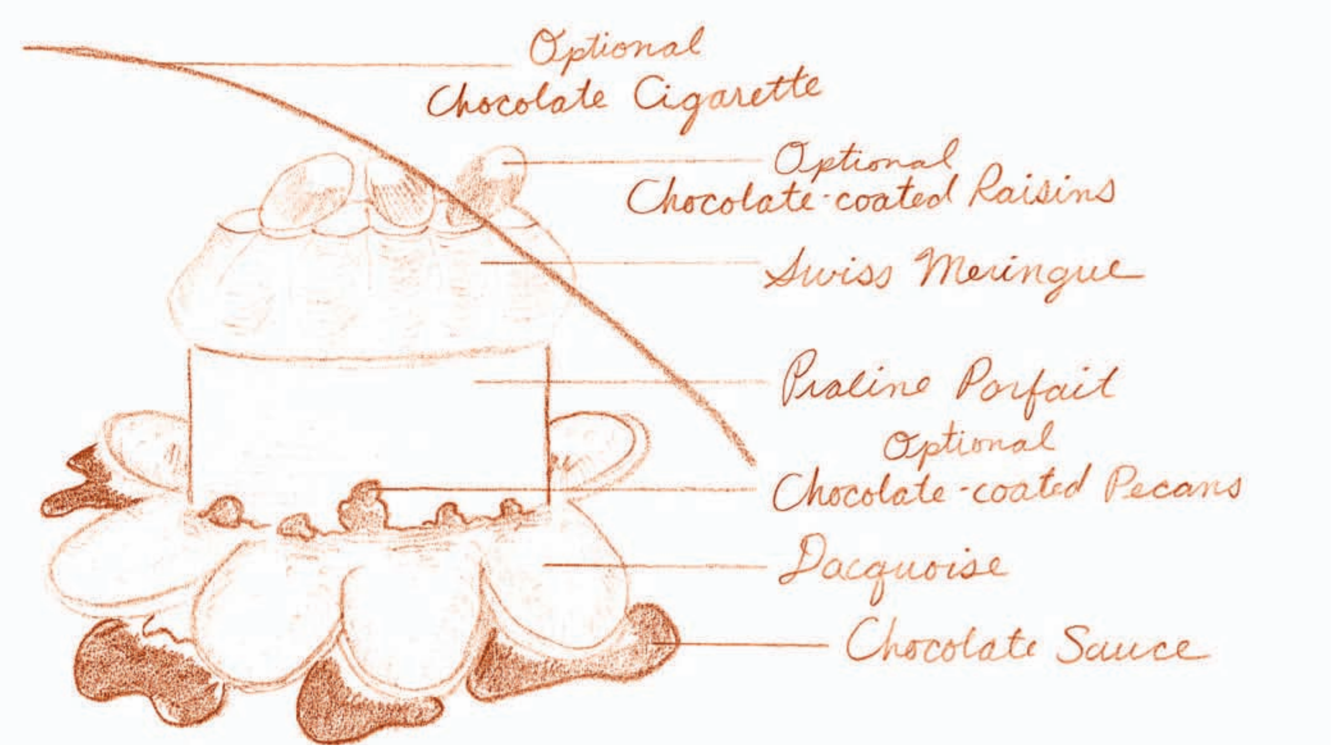
2. Remove the parfaits from the freezer and unmold. Scatter them on a half sheet pan lined with parchment paper, at least 3 in/8 cm apart. Bring the spraying chocolate to 120°F/49°C in a bowl over barely simmering water and place into the container of the spray gun. From 14 in/36 cm away, spray in a fluid motion, coating the parfaits. Reserve the parfaits.

3. Using a #30 ladle, place 1 fl oz/30 mL of the chocolate sauce in the center of each plate. Using the back of the ladle, spread out the sauce in a circular motion until it has a 3½-in/9-cm diameter around the plate. Place the dacquoise off center of the chocolate sauce. Place the parfait in the center of the dacquoise. Place the Swiss meringue on top of the parfait.

CHEF'S NOTES

A little more sauce can be added in the center of the meringue if desired.

The choice of dacquoise is up to the pastry cook. Any dacquoise will work well.


Optional Chocolate Cigarette
Optional Chocolate-coated Raisins
Swiss Meringue
Praline Parfait
Optional Chocolate-coated Pecans
Dacquoise
Chocolate Sauce

STRAWBERRIES THREE WAYS

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Angel Food Cake batter (page 287)	1 lb 8 oz	680 g
Crème Brûlée (page 402), unbaked	1 lb 6¼ oz	630 g
Strawberry Terrine (page 461)	8½ oz	240 g
Chantilly Cream (page 482)	8 oz	230 g
Tarragon sprigs, extra small	10	10
Strawberry Tarragon Sauce (page 514)	9½ oz	270 g

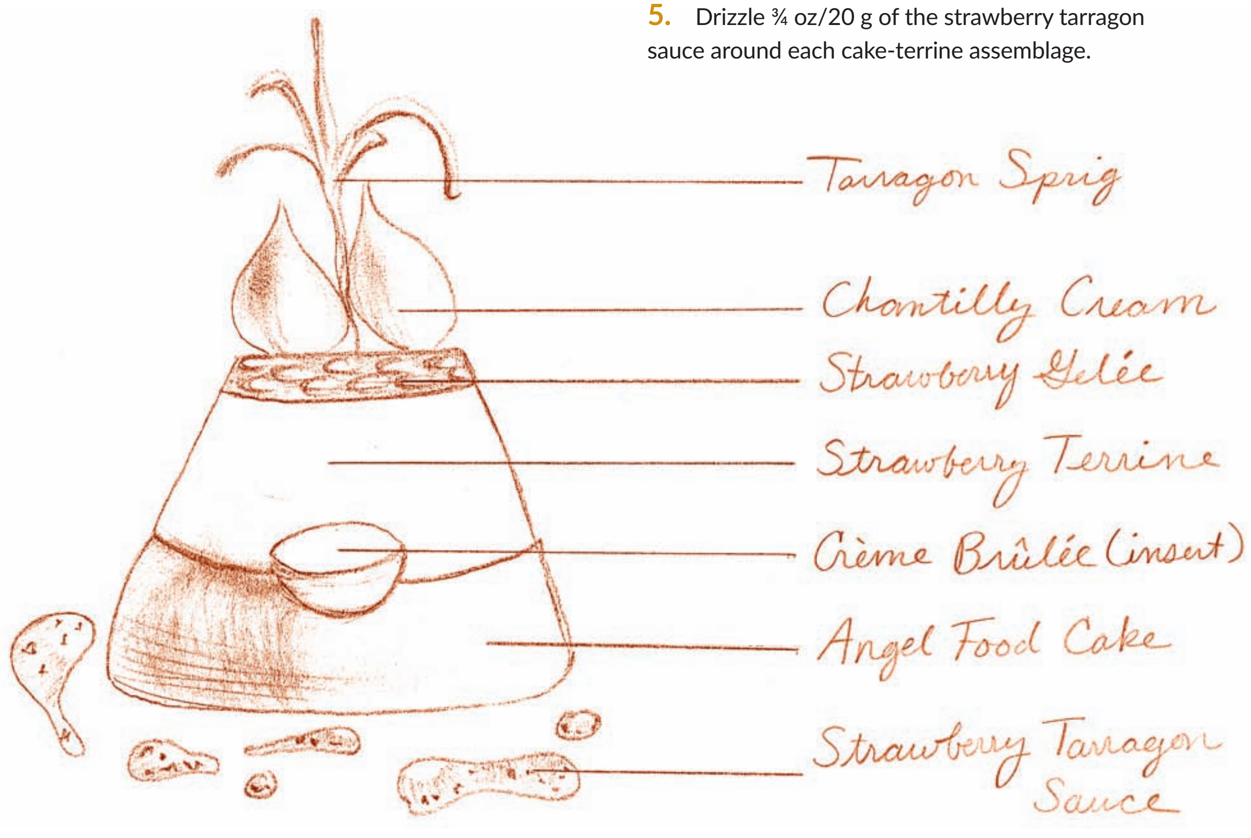
1. Bake the angel food cake in savarin molds in a 350°F/177°C convection oven until golden brown, 8 to 10 minutes. Cool, then unmold.

2. Place the crème brûlée mixture in 3-in/8-cm molds and freeze for at least 2 hours. Once frozen, unmold the crème brûlée and place in the cavity of the angel food cakes.

3. Unmold the strawberry terrines directly on top of the angel food cakes. Allow to thaw for 2 hours, refrigerated.

4. Place the cake and terrine in the center of each plate. Place a quenelle of Chantilly cream on top of the terrine. Spike the Chantilly with a tarragon sprig.

5. Drizzle ¾ oz/20 g of the strawberry tarragon sauce around each cake-terrine assemblage.


Tarragon Sprig
Chantilly Cream
Strawberry Gelée
Strawberry Terrine
Crème Brûlée (insert)
Angel Food Cake
Strawberry Tarragon Sauce

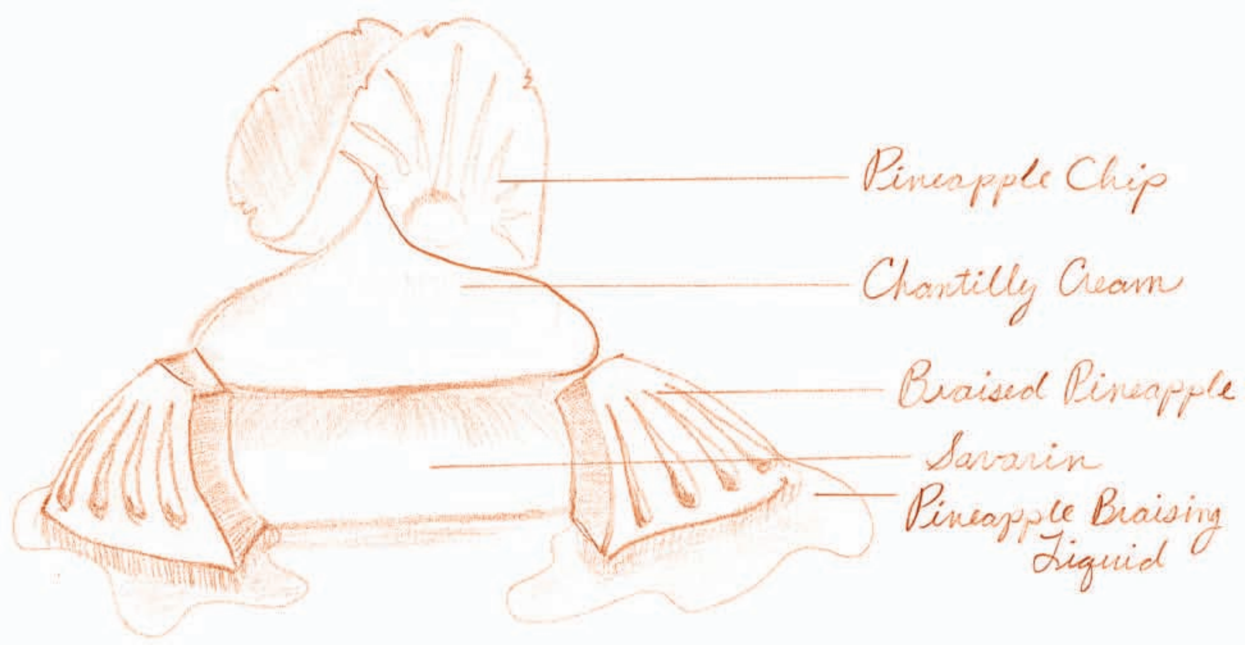
TROPICAL SAVARIN MADAGASCAR

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Savarins (page 326)	10	10
Savarin Syrup (page 511), hot	2 lb 8 oz	1.13 kg
Rum (optional)	As needed	As needed
Mirror Glaze (page 491)	4 oz	110 g
Chantilly Cream (page 482)	8 oz	230 g
Braised Pineapple and braising liquid (page 1068), sliced into triangles	1 lb 6 oz	620 g
Pineapple Chips (page 1065)	10	10

1. Dip the savarins one by one into the hot syrup, porous side down first, until the savarin sinks halfway into the syrup, about 1 minute. Using a large slotted spoon, gently flip over the savarin to soak until it sinks three-quarters of the way down, 45 seconds to 1 minute, making sure that the savarin does not fall apart. Carefully scoop out the savarin with the slotted spoon and gently place on a wire rack over a sheet pan. Cool the savarins and syrup to room temperature. Squirt rum on top of the savarins while cooling, if desired. Refrigerate for 1 hour.

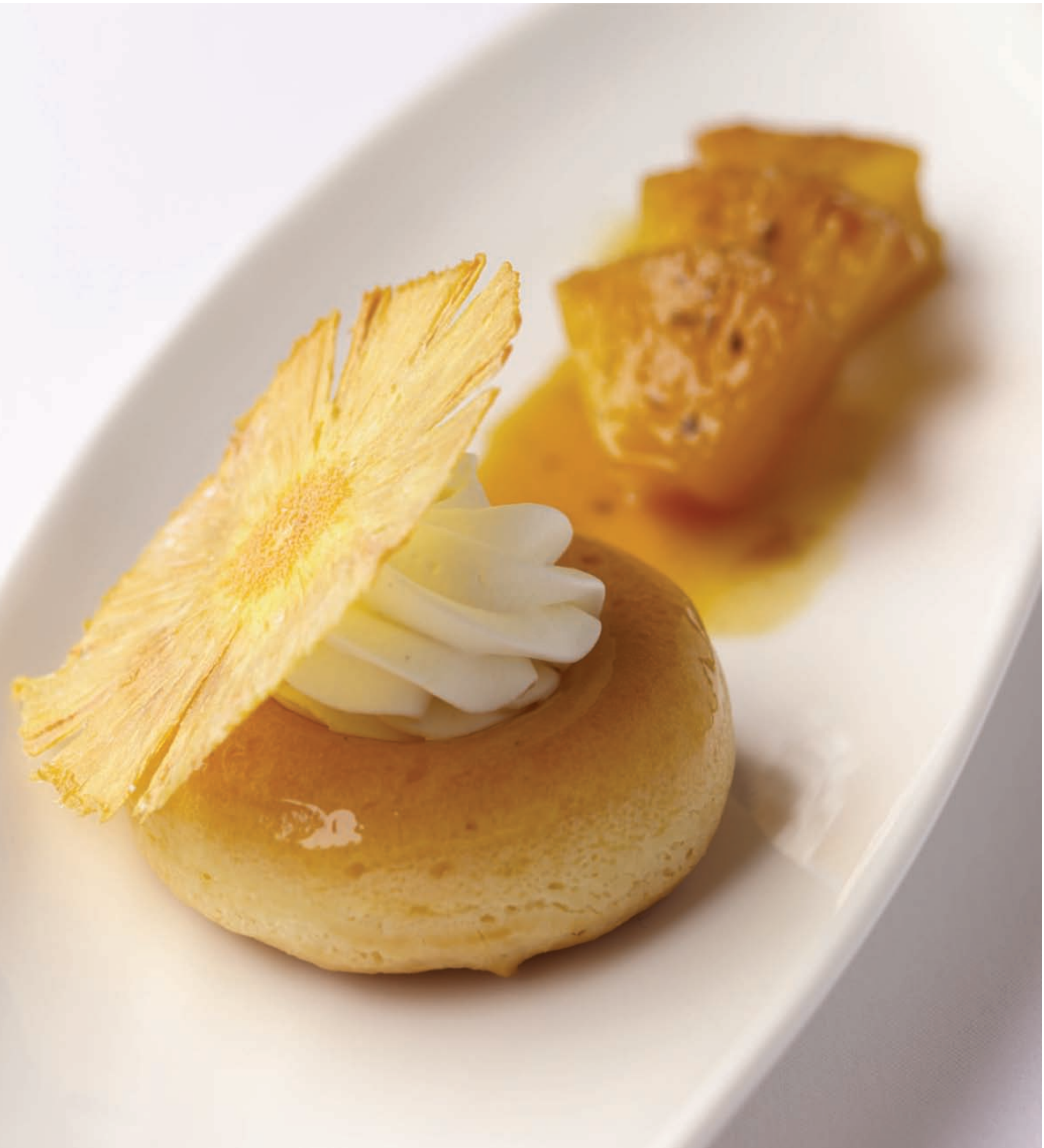
2. Make a glaze by combining 2 oz/60 g of the mirror glaze with 1½ to 2 oz/40 to 60 g of the savarin syrup. Dip the tops of each savarin into the glaze. Place the savarins, glazed side up, on a parchment-lined sheet pan.



3. Using a pastry bag fitted with a #6 star tip, pipe a double rosette of Chantilly cream into the center of each glazed savarin. Refrigerate until needed.

4. In a saucepot over medium heat, warm the pineapple in its braising liquid until hot.

5. To plate, place the savarin on one side of the plate. Place the pineapple pieces tapering away from the savarin on the opposite side of the plate. Pour 1 tbsp/15 mL of the hot braising liquid on top of the pineapple pieces to coat. Place the pineapple chip at a 45-degree angle onto the Chantilly cream rosette.



PEAR AND THAI JEWELS

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Chocolate Tuiles (page 381), leaf shaped	10	10
Lychee Sorbet (page 595), extracted but not aged	1 lb 4 oz	570 g
Poached Pears (page 1077), drained and blotted dry	10	10
Seasonal fruit, cubed ¼-in/0.6-cm as necessary	10 oz	280 g
Lychees, fresh, peeled, halved, and pitted	10	10
Banana Passion Fruit Broth (page 543)	1 lb 4 oz	570 g

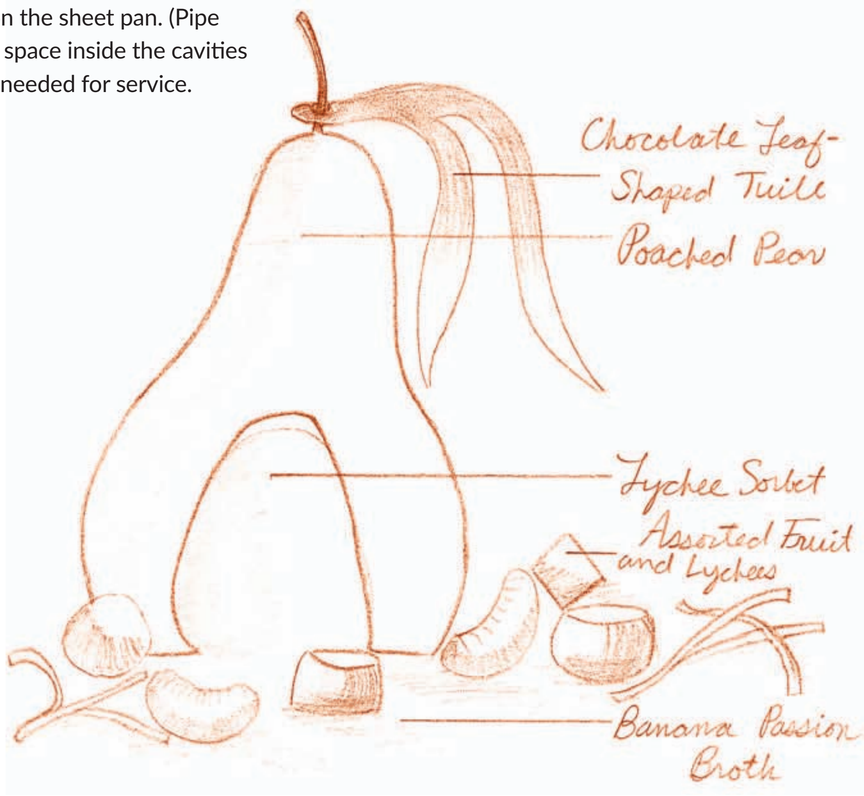
1. Fill a half sheet pan ¼ in/0.6 cm high with cold water and place another half sheet pan on top. Place a piece of foil on the top sheet pan and place in the freezer.

2. Make a hole about ⅛ in/0.3 cm in diameter in the top of each tuile so it can be placed over a pear stem. Reserve.

3. Place the sorbet in a pastry bag with an opening 1 in/3 cm wide. Pipe 12 small mounds of sorbet directly onto the foil on the sheet pan. (Pipe mounds only as big as the space inside the cavities of the pears.) Freeze until needed for service.

4. Place the sorbet insert into the cavity of each pear and place the pears, standing upright, in the center of soup bowls.

5. Arrange the diced fruit and 2 lychee halves around each pear. Pour over about 2 fl oz/60 mL banana passion fruit broth, so the fruit is halfway submerged in the broth. Place a chocolate leaf tuile over the pear stem. Serve immediately.



GRANNY SMITH APPLE SORBET, APPLE CIDER TUILE, CANDIED APPLES, AND CINNAMON STREUSEL DESSERT

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Apple Skin Powder (page 549)	7½ oz	210 g
Blackstrap molasses	1 oz	30 g
Cinnamon Streusel (page 1080)	1¾ oz	50 g
Candied Apples (page 549)	1¾ oz	50 g
Granny Smith Apple Sorbet II (page 589)	2 lb 6 oz	1.08 kg
Apple Cider Tuiles (page 384)	10	10

1. To plate one dessert: place ¾ oz/20 g of apple skin powder on the plate and spread evenly into a rectangle, using a pastry comb.

2. Using an eye dropper or pipette, make a straight line of blackstrap molasses dots on one side of the plate.

3. Place about 5 good-size morsels of cinnamon streusel on the plate.

4. Place about 5 even-shaped candied apple cubes on the plate.

5. Take the sorbet tubes out of the freezer and remove the acetate. Place the sorbet on the plate next to the candied apples and streusel.

6. Put a ring of apple cider tuile around the the sorbet.

7. Allow the sorbet to temper for 3 to 4 minutes, then serve immediately.

BERGAMOT POSSET DESSERT

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Bergamot Posset (page 513)	2 lb 8 oz	1.13 kg
Acacia honey	As needed	As needed
Sablé crumbs	5 oz	140 g
Lillet Granité (page 601)	1 lb 4 oz	570 g
Encapsulated Bergamot Orange Spheres (page 546)	10	10
Sablé Butter (page 354)	5 oz	140 g
Micro greens	5 oz	140 g

1. Portion the bergamot posset into bowls at least 8 hours before service.

2. Drizzle the top of the posset with acacia honey and top with a thin layer of sablé crumbs.

3. Place 2 oz/60 g of the Lillet granité in an even layer on top of the sable crumbs. Arrange a small amount of sablé crumbs in a crescent shape to the right side of the bowl.

4. Place the encapsulated bergamot curd sphere at 9 o'clock and a ½ oz/14 g quenelle of the sablé butter at 2 o'clock.

5. Arrange assorted microgreens as desired.

6. Place a desired number of acacia honey drops on the granité and the sablé.

STRAWBERRY CHAMPAGNE

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Vanilla Mascarpone Sherbet (page 598), extracted but not aged	4 lb	1.81 kg
Strawberry Sorbet (page 590), extracted but not aged	3 lb 7 oz	1.56 kg
Rhubarb (page 549), cubes	80	80
Champagne Gel (page 547), 1 by 3-in/3 by 8-cm strips	10	10
Strawberry Cake (page 270), ½-in/1-cm cubes	30	30
Champagne Gastrique (page 548)	5 oz	140 g

1. Process the vanilla mascarpone sherbet and strawberry sorbet and immediately after processing, fold them together to marbleize. Form ten 2-fl oz/60-mL quenelles and reserve in the freezer.

2. Line up 8 pieces of rhubarb starting from the center of the plate to form a neat strip. Place the Champagne gel on top.

3. Place 3 cubes of cake in the center of each place at the end of the rhubarb strip.

4. Place a quenelle of sorbet on top of the cake cubes.

5. Garnish the plate with Champagne gastrique in small, deliberate droplets.

PEANUT BUTTER BAR DESSERT

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Red Grape Sorbet (page 587)	10 oz	280 g
Peanut Butter Bars (page 706), cut to 4½ by 1 in/11 by 2.5 cm	10	10
Fruit Sangria Sauce (page 526)	10 oz	280 g

1. Scoop the red grape sorbet into 1-oz/30-g round servings and reserve in the freezer.

2. Place a bar slightly off center of a rectangular plate and garnish the plate with fruit sangria sauce and red grape sorbet.

GOAT CHEESECAKE WITH BLUEBERRY BLISS AND CHANTILLY CREAM

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Lemon Sorbet II (page 586)	10 oz	280 g
1-2-3 Cookie Dough, 1½-in/4-cm rounds (page 233), baked	10	10
Goat Cheese Cheesecake (page 409) cones	10	10
Blueberry Bliss (page 505)	5 oz	140 g
Chantilly Cream (page 482)	5 oz	140 g
Caramel Sauce (page 531)	5 oz	140 g
Orange Sauce (page 510)	5 oz	140 g
Blueberry Tuile (page 386)	10	10
Orange Chips (page 1074)	10	10

1. Form the lemon sorbet into 1-oz/30-g quenelles and reserve in the freezer.

2. Place a round of 1-2-3 Cookie Dough at one end of a small oval plate and place a goat cheesecake on top. Top the cheesecake with three blueberries from the blueberry bliss and finally with a 1-tbsp/15-mL quenelle of Chantilly cream.

3. Place a ½-oz/14-g dot of caramel sauce next to the cheesecake cone and then a drop of orange sauce.

4. Place the lemon sorbet next to the orange sauce and garnish with the blueberry tuile and an orange chip.

VACHERIN WITH BLACKBERRY SORBET AND MINT ICE CREAM

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Blackberry Sorbet (page 592)	1 lb 4 oz	570 g
Mint Ice Cream (page 582)	1 lb 4 oz	570 g
Vacherins (page 598)	10	10
Whipped cream	1 lb 4 oz	570 g
Mint Sauce II (page 506)	10 oz	280 g
Blackberry Sauce (page 525)	10 oz	280 g
Blackberries	40	40

1. Pipe blackberry sorbet in a 2-in/5-cm flexi dome ¾ of the way and top immediately with the frozen mint ice cream. Even the top using a small offset spatula and freeze overnight.

2. Unmold and place on top of a vacherin. Place on a turntable and pipe whipped cream using a medium-size basket-weave tip, starting from the base to the top.

3. Keep at 8°F/−13°C until ordered. Temper for 6 minutes at room temperature before final assembly.

4. For service, place a vacherin in the center of each plate and alternately place drops of mint and blackberry sauce around the vacherin.

5. Garnish around the perimeter with whole blackberries.

INDIVIDUAL TARTE TATIN

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Caramelized Apple Financier (page 320), individual	10	10
Streusel Topping (page 1079)	5 oz	140 g
Crème Fraîche Ice Cream (page 573), 1-oz/28-g quenelles	10	10
Caramel Décor (page 1024)	10	10
Classic Caramel Sauce (page 531)	5 oz	140 g
White Sauce (page 496)	5 oz	140 g

1. Place an individual financier off-center on a round plate. Place a mound of Streusel with a quenelle of sour cream ice cream on top across from the financier.
2. Place a caramel décor on top of the quenelle.
3. Garnish the plate with a smear of caramel sauce and small dots of white sauce.

WARM CHOCOLATE TART

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Caramel and Coffee Sauce (page 502)	10 oz	280 g
Chocolate Sauce (page 500)	5 oz	140 g
Warm Chocolate Tart (page 895)	10	10
Coffee Ice Cream (page 568), 1-oz/30-g quenelles	10	10
Chocolate Caramel Tuiles (page 385)	10	10

1. Pool 1 oz/30 g of caramel sauce in the center of the plate. Pipe small dots of chocolate sauce in a ring around the caramel sauce.
2. Place a chocolate tart in the center of the caramel sauce. Spoon a quenelle of coffee ice cream in the center of the tart.
3. Lean a tuile against the chocolate tart.

STRAWBERRY SHORTCAKE

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Vanilla Shortbread (page 358), 1 by 3-in/3 by 8-cm strips	10	10
Strawberry Basil Sorbet (page 591)	1 lb 4 oz	570 g
Pickled Strawberries (page 552)	20	20
Yogurt cremeux (page 410)	1 lb 4 oz	570 g
White chocolate triangle garnish (see page 986)	20	20
Butter Cake Sauce (page 553)	5 oz	140 g
Basil Gelée (page 545), ¼-in/0.6-cm circles	50	50
Strawberries, finely minced	5 oz	140 g
Mint leaves, small	50	50

1. Place a strip of shortbread diagonally through the center of a square plate.

2. Place a 2-oz/60-g quenelle of strawberry sorbet in the center of the strip and a pickled strawberry on each side of the quenelle.

3. Form the yogurt cremeux into twenty 1-oz/30-g quenelles and place one at each end of the strip next to each of the pickled strawberries.

4. Lean a white chocolate triangle garnish on each of the yogurt cremeux quenelles.

5. Garnish the plate with droplets of the butter cake, 5 basil gelée rounds, a ½-oz/14-g mound of minced strawberries, and 5 mint leaves.

MILK CHOCOLATE MOUSSE BOMBE WITH PECAN CARAMEL AND BOURBON ICE CREAM AND PECAN CRUMBLE

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Flourless Chocolate Cake (page 289), cut in 1¼-in/3-cm rounds	30	30
Milk Chocolate Mousse I (page 432)	15 oz	430 g
Soft Milk Chocolate Caramel (page 489)	3 fl oz	150 mL
Dark Chocolate Glaze (page 490), warmed	15 oz	430 g
Maple Sauce (page 530)	10 oz	280 g
Pecan Crumble (page 238)	5 oz	140 g
Maple Whipped Cream (page 483)	10 oz	280 g
Mousse/Crispy Chocolate (page 389)	10	10
Crispy Meringue (page 387)	10	10
Bourbon Ice Cream (page 572)	10 oz	280 g

1. Reserve the cake rounds in the freezer.

2. Fill thirty 1¼-in/3-cm diameter dome-shaped flexible silicone molds half-full with chocolate mousse.

3. Using a ½-tsp/2.5-mL measure, scoop chilled soft caramel on top of the mousse.

4. Pipe the remaining mousse on top of the caramel. Place a chocolate cake round on top of each mold and gently press into the mold, completely filling it. Even out the mousse with an offset spatula. Freeze.

5. Unmold the domes and place on a wire rack over a sheet pan. Coat each bombe with warm chocolate glaze. Immediately after coating, lift each bombe off the rack using a small offset spatula and place on a parchment-lined sheet pan. Chill until ready to use.

6. To plate the dessert, drizzle a stripe of the maple sauce off center across the plate and sprinkle with pecan crumble.

7. Place 3 domes of mousse across the plate perpendicular to the stripe of sauce and crumble.

8. Form the maple whipped cream into ½-oz/14-g quenelles and place two on the plate next to the outermost spheres. Lean a mousse/crispy chocolate chip against each of the spheres as well.

9. Lean a meringue chip against the sphere in the center.

10. Place a 1-oz/30-g quenelle of ice cream on the plate across the strip of sauce and crumble.

GRILLED CHEESE

MAKES 10 DESSERTS

INGREDIENT	U.S.	METRIC
Walnut Milk Sorbet (page 596)	10 oz	280 g
Brioche Loaf (page 144), ¼-in/0.6-cm-thick slices, crust removed	5	5
Sharp cheddar cheese	5 oz	140 g
Classic Caramel Sauce (page 531)	10 oz	280 g
Fig paste, ½-oz/14-g quenelles	10	10
Fig Tuiles (page 385)	10	10
Candied Walnuts (page 1069)	5 oz	140 g

1. Make 1-oz/30-g quenelles from the walnut milk sorbet and reserve in the freezer.

2. Make two and a half cheese sandwiches using 2 oz/60 g of the cheese for each of the whole sandwiches and 1 oz/30 g for the half sandwich. Cut the sandwiches into quarters and reserve.

3. Drizzle each plate with caramel sauce. Grill one of the sandwich quarters just before serving using a panini press.

4. Halve each of the quarter-sandwiches on the diagonal and place two triangles on each plate them pointing upward.

5. Garnish each plate with a quenelle of fig paste, a fig tuile, ½ oz/14 g of the candied walnuts, and a quenelle of sorbet. Serve immediately.

21

CHOCOLATES AND CONFECTIONS

This chapter introduces principles and techniques involved with working with chocolate and sugar. These techniques are used to make ganaches, gianduja, caramels, candied fruit, fondant, marzipan, and gelées, as well as aerated, molded, and deposited candies, chocolates, and other confections.

MELTING CHOCOLATE

1. Chocolate that is to be melted should be finely chopped. The smaller the pieces, the more surface area is exposed, and the quicker the chocolate melts, helping to prevent overheating. This is an important consideration, as overheating chocolate will render it unusable. A heavy chef's knife is generally best for chopping chocolate, but some pastry chefs prefer to use a long serrated knife because the serrated blade breaks the chocolate into fine shards ideal for melting.

2. A hot water bath is usually used for melting chocolate, but it is important that moisture (steam, water, or condensation) never comes in contact with the chocolate. Moisture causes chocolate to "seize," or to become thick and grainy, rendering it unfit for tempering and most other uses. For this reason, it is important that the bowl (or the top of the double boiler) is completely dry and that the bowl (or top) fits snugly over the pan of water, forming a tight seal.

3. The water should be steaming hot but not simmering.

4. Gently stir the chocolate occasionally as it melts. Gently stirring the chocolate ensures even heating and melting.

5. Remove the chocolate from the heat promptly once it is fully melted. Removing the chocolate promptly will keep the chocolate from becoming overheated.

A microwave may also be used to melt chocolate. Some pastry chefs consider it the best choice because the chocolate does not come near water. The chocolate must be chopped or broken into small pieces about the same size. Use medium power rather than high and heat the chocolate for 30-second intervals, removing and stirring it after each to ensure even heating and melting.

WORKING WITH COUVERTURE

COUVERTURE IS CHOCOLATE THAT contains a minimum of 32 percent cocoa butter. This means it is thinner when melted than other chocolates and can easily form a thin coating, making it ideal for dipping and enrobing confections.

The temperature of the workspace and the temperature of the items to be coated are important factors in ensuring that tempered chocolate retains its smooth, glossy appearance when set. When coating or dipping items in couverture, recrystallization must take place within a specific period of time. The ambient temperature should be between 65° and 70°F/18° and 21°C. The item to be dipped or enrobed should also be at room temperature. Confections that are too warm could cause the chocolate to bloom or to have a matte finish, while items that are too cold could "shock" the couverture, resulting in a dull finish.

TEMPERING CHOCOLATE

CHOCOLATE IS PURCHASED IN temper, but in order to work with it, it must be melted and then tempered again, so that as it cools and sets it will return to the same state as when purchased. Tempered chocolate has the snap and gloss associated with good chocolate, and will store better and for a longer period of time. Dipping or coating confections in tempered chocolate adds flavor, improves appearance, and helps to preserve them, as the tempered chocolate prevents moisture migration and keeps the filling from coming in contact with air, which can cause spoilage.

Tempering is accomplished through a specific process of cooling and agitation. There are several different methods of tempering chocolate, but all are based on the same general principles. Chocolate contains different types of fat crystals. When tempering chocolate, the object is to get the right type of crystals to form. Otherwise, when the chocolate sets, it will lack hardness, snap, and shine, and will bloom. First, the chocolate must be heated to the following temperatures to ensure that all the different types of fat crystals melt: 110° to 120°F/43° to 49°C for dark chocolate, 105° to 110°F/41° to 43°C for milk chocolate and white chocolate. A portion of chocolate that is already in temper is then added to "seed" the untempered chocolate and begin the formation of the beta crystals (the desirable stable fat crystals). Then the chocolate must be cooled to about 80°F/27°C while being constantly agitated. It is gradually brought back up to the appropriate working temperature. When tempering chocolate, it is best to melt more than you will need, as it is easier to keep larger amounts of chocolate in temper.

Seeding chocolate to bring it to temper

Working Temperatures for Tempered Chocolate

Dark chocolate	86° to 90°F/30° to 32°C
Milk chocolate	84° to 87°F/29° to 31°C
White chocolate	84° to 87°F/29° to 31°C

The temperatures given above are ranges because different brands of chocolate vary in terms of tempering. Each chocolate manufacturer, in fact, has specific recommended working temperatures for the couvertures it produces.

SEED METHOD

1. Chopped tempered chocolate—approximately 25 percent of the weight of the melted chocolate to be tempered—is added to the warm (110°F/43°C) melted chocolate and gently stirred to melt and incorporate it. The stable crystals in the chopped chocolate help stimulate the formation of stable beta crystals in the untempered chocolate.

2. The whole mass is then brought to the appropriate working temperature.

BLOCK METHOD

1. With the block method of chocolate tempering, a single block of tempered chocolate is added to warm melted chocolate and gently stirred until the desired temperature is reached. The block of chocolate not only reduces the temperature of the melted chocolate, but also provides the seed crystals necessary for tempering.

2. After the chocolate is brought into temper, the seed, or block of chocolate, is removed. The block can be used again. This method is simple and effective, but slightly more time-consuming than other methods of tempering.

TOP LEFT: *Spread some of the melted chocolate onto the marble.*

TOP RIGHT: *Continue to spread and agitate the chocolate until it has reached the appropriate temperature.*

BOTTOM LEFT: *Transfer the tabled chocolate to the remaining melted chocolate, and stir to bring to the appropriate working temperature.*

BOTTOM RIGHT: *Top to bottom: Tempered chocolate; untempered chocolate that has set with spots; untempered chocolate that is still wet, with streaks*

TABLING METHOD

1. Approximately one-third of the melted chocolate (at 110°F/43°C) is poured onto a marble surface and spread back and forth with a spatula and scraper until it begins to thicken. A marble surface is used because it has a high thermal mass and so is most efficient in pulling heat from product it is in contact with.

2. As the tabled chocolate begins to set, the beta crystals form and it becomes dull and takes on a paste-like consistency. This resulting mass is then added to the remaining melted chocolate and gently stirred to seed the chocolate to be tempered with the stable beta crystals.

3. The whole mass is then gradually brought to the appropriate working temperature.

For any method of tempering chocolate, it is wise when finished to test the chocolate, making sure that it is in full temper. To do this, dip a tool such as a small spatula into the chocolate and set it aside. Continuing to gently stir the tempered chocolate, examine how the chocolate cools on the spatula. Properly tempered chocolate should set within 3 to 5 minutes at room temperature, and should be streak-free with a satiny shine. Chocolate not in full temper may be streaky, speckled, and dull, and will set more slowly; if this occurs the chocolate needs to be seeded further until full temper is achieved.

Tempered chocolate sets quickly. Working with relatively large amounts helps to keep it from cooling and setting too rapidly. If tempered chocolate begins to set and thicken as you work, act quickly so the chocolate will not have to be melted and retempered: Stirring constantly, hold the bowl of chocolate directly over a burner for 2 to 3 seconds; remove the chocolate from the heat while continuing to stir. Repeat the process, checking the temperature of the chocolate each time after removing the bowl from the heat so the chocolate does not overheat and come out of temper, until the chocolate is again at the optimal working temperature and consistency. Be careful not to return the bowl to the heat until the bottom of the bowl feels cooler than body temperature.

THINNING TEMPERED CHOCOLATE

TO THIN TEMPERED CHOCOLATE for dipping, use 10 percent cocoa butter per weight of chocolate; blend in and temper before dipping.

CREAM GANACHE

CREAM GANACHE HAS A wide range of uses, from filling centers for confections to glazing and filling cakes and pastries. In confectionery work, cream ganache is most commonly used as the center for truffles, but other confections are made with ganache as well.

The consistency of ganache may be hard, soft, or any variation in between, depending on the ratio of chocolate to cream. Soft ganache and medium ganache are not firm enough, nor do they have an adequate shelf life, to be used in confectionery work. As a rule, hard ganache is required for piped and rolled truffle centers.

Chocolate and cream are the basic ingredients for making ganache, but other ingredients may be added for flavoring and to provide a smoother texture. The addition of butter and/or corn syrup or glucose syrup can yield a superior finished product in both flavor and texture.

Butter is added to the ganache to increase fat content when some of the cream in the formula is replaced with liqueur. Typically, the amount of butter to be added is half the weight of the liqueur. The butter is usually added to the ganache after the chocolate is fully melted. (For more information, see "Butter Ganache," page 909.)

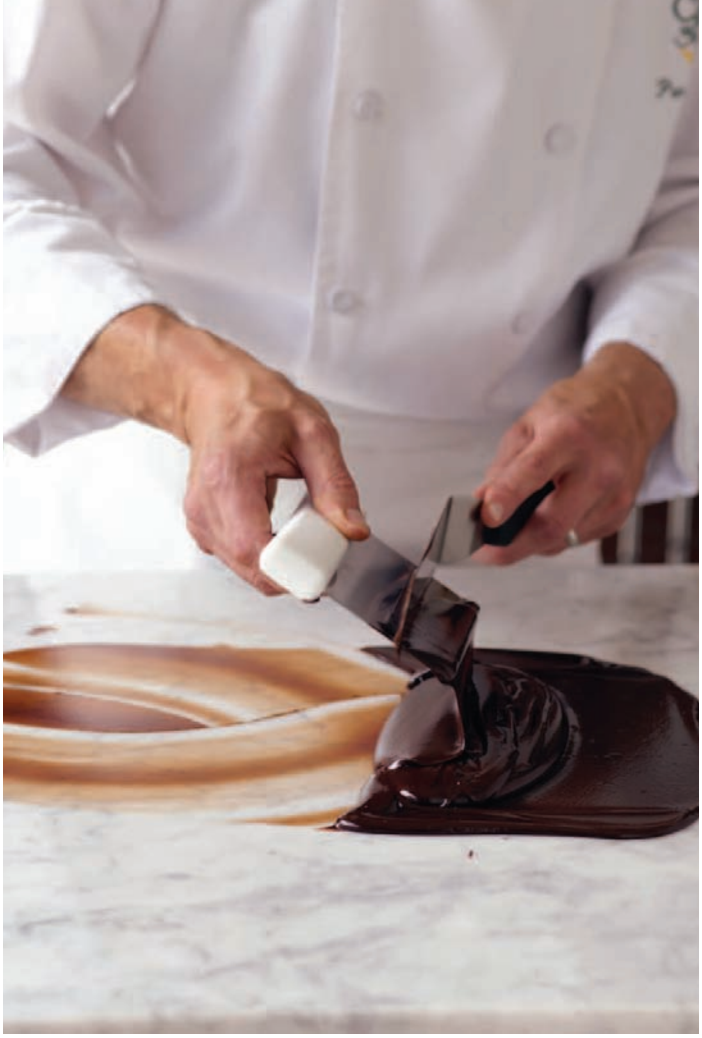
Light corn syrup or glucose syrup may be added to ganache to help prevent recrystallization of the sugar and maintain a smooth texture. The weight of the added corn syrup generally should not exceed 10 percent of the total weight of the ganache. Light corn syrup is typically added to the cream before it is boiled.

1. Chop the chocolate into small pieces of uniform size so the pieces will melt quickly and at the same rate. Dark, milk, or white chocolate may be used to make cream ganache. Milk and white chocolate contain less cocoa solids and less cocoa butter than a dark variety and so require a higher recipe ratio of chocolate to cream. Percentages of cocoa solids or butter may also vary based on the chocolate manufacturer, so ratios should be adjusted as needed.

2. Bring heavy cream to a boil in a heavy-bottomed saucepan.

3. Pour the hot cream over the chocolate. Let the mixture stand undisturbed for a few minutes to allow the hot cream to begin melting the chocolate. When combining the chocolate and cream, some pastry chefs add the chocolate directly to the pan of hot cream; however, this practice risks scorching the chocolate on the bottom of the hot pan.

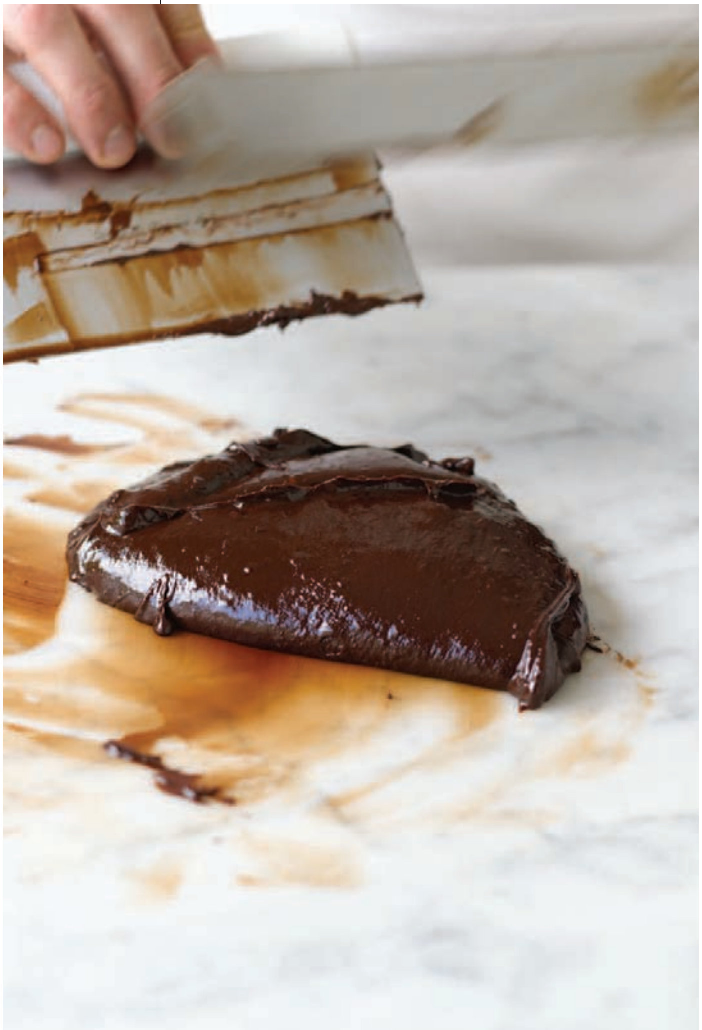
4. Stir the mixture gently to blend and melt the chocolate completely without incorporating air. If the chocolate is not fully melted at this point, warm the ganache over simmering water, stirring gently.

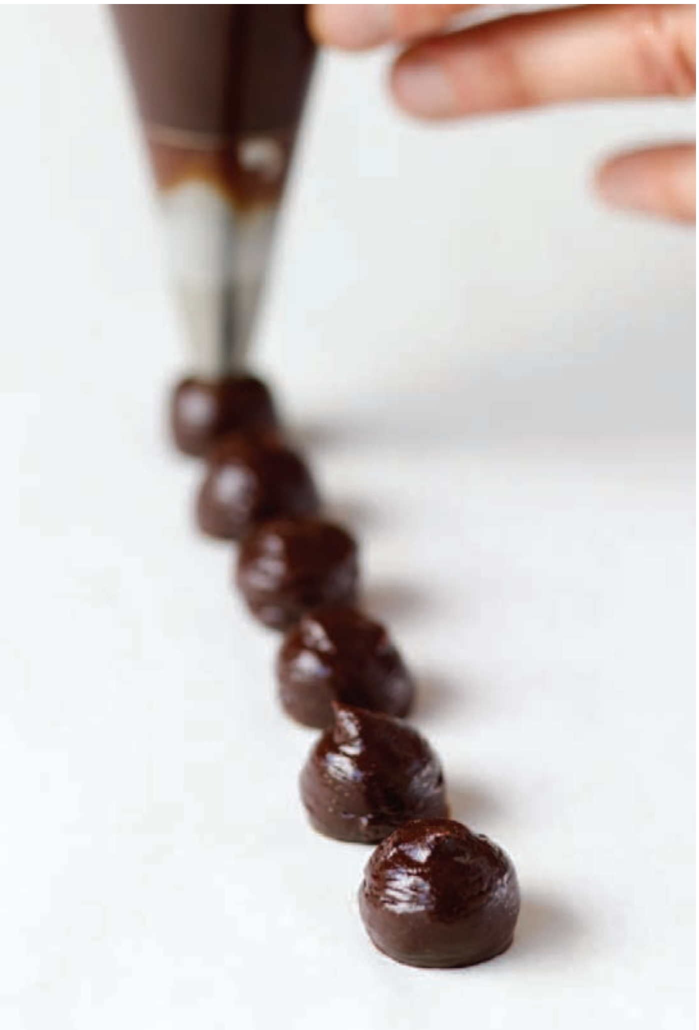


TOP LEFT: *Tabling the ganache*

BOTTOM LEFT: *Ganache at the proper consistency for piping*

BOTTOM RIGHT: *Piping truffles from the prepared ganache*





When making ganache to be tabled, it is advisable to allow the boiled cream to cool to 170°F/77°C in order not to melt all the stable cocoa butter crystals.

FLAVORING GANACHE FOR TRUFFLES

Infusion is an effective method of flavoring cream ganache.

1. Bring the cream to a boil, add the flavoring, and remove the pan from the heat. Examples of common flavorings to be infused into ganache include vanilla, coffee, teas, and spices.

2. Cover and allow to stand until the flavor has been infused into the cream, 5 to 10 minutes.

3. After steeping, aromatics such as teas, herbs, and spices are strained out of the cream.

4. After straining, water or milk should be added as necessary to bring the liquid to its original weight so the finished ganache will be the proper consistency.

5. Before the infused cream is added to the chocolate, it should be rewarmed so it is hot enough to melt the chocolate.

A liqueur or other spirit may be added for flavoring. Pastes and compounds may also be used. Because these are strongly flavored, they are usually added to taste to the finished ganache.

BUTTER GANACHE

THE SWEETENER USED FOR butter ganache must be smooth—that is, its texture must not be discernible on the palate, because the mixture does not contain enough moisture to melt the sweetener. Examples of sweeteners well suited for making butter ganache are jam, corn syrup, glucose syrup, and fondant. The amount of sweetener used may equal as much as half the weight of the butter. The basic ratios for butter ganache are 2:1 or 2½:1 chocolate to butter.

Spirits and liqueurs added for flavoring should be added last. When adding spirits, be careful to maintain the 2:1 or 2½:1 ratio of chocolate to butter. The spirit is calculated as part of the butter. To maintain the ratio, you can reduce the amount of butter or recalculate the quantity of chocolate based on the new value of butter plus spirit.

Butter ganache may be either piped or spread on a marble surface and cut to form confections.

The butter is treated differently depending on which of the two techniques is used. If the ganache is to be piped, the butter is creamed with the sweetener until light and aerated. If the ganache is to be spread out into a marble surface to harden and be cut, the butter is blended with the sweetener, incorporating as little air as possible; if too much air is incorporated into the butter, the ganache is likely to crack when cut.

Butter ganache must be worked with quickly and in small batches. Once it has set, it is very difficult to bring butter ganache back to a working consistency, as softening would require heat and that would ruin the structure by melting the butter.

1. Mix a sweetener with softened butter.

2. Add tempered chocolate and flavoring. Tempered chocolate must be used for making butter ganache. The chocolate must be in temper when it is added to the butter or the butter ganache will not set properly.

EGG GANACHE

THIS GANACHE IS MADE much the same way as is cream ganache: melting chocolate by blending it with a hot liquid. The distinguishing difference is the type of hot liquid; for egg ganache, cream is heated with butter and then blended with egg yolks before it is added to the chocolate. Egg ganache, like cream ganache, may also be flavored by infusion.

MAKING STENCILS

THE STENCIL (also known as a cutout or base) is a component of many different types of confections. A stencil provides a base for piped fillings.

To form stencils, spread a thin, even layer of tempered chocolate on a sheet of parchment paper laid out on a wooden work surface or countertop (a marble, metal, or other cold surface would cause the chocolate to set too quickly).

Allow the chocolate to set until it begins to firm, then cut disks, typically with a ¾-inch/2-cm round cutter. Allow the chocolate to set completely on the parchment paper.

PIPING TRUFFLES

GANACHE THAT IS TO be used as a center for a confection must be agitated (through stirring or tabling) so that it is firm enough to be piped or shaped. When the ganache has the proper consistency, it is piped, then rolled into perfect spheres, which will be coated with tempered chocolate or otherwise finished.

1. Ganache that will be portioned by piping should not be refrigerated because it will become too firm. Instead, agitate the ganache by stirring it in a bowl or working it on a marble surface (tabling) to bring it to piping consistency. Care must be taken not to overwork the ganache, or it will separate, resulting in a grainy texture.

2. For piping truffles, a #3 or #4 plain tip is most commonly used. Sometimes the ganache is piped onto tempered chocolate disks to form a teardrop or peak shape; in this case the confection is allowed to set until firm and then dipped. For truffles, pipe the ganache into even rows of small round domes onto parchment-lined sheet pans.

3. After it has been portioned, allow the ganache to set at room temperature until firm.

   At this point, depending on the desired shape, the truffles should be rolled by hand to create a perfect sphere. Centers should never be dipped when cold, as the chocolate coating will be thick and will not have the desired shine.

COATING TRUFFLES IN TEMPERED CHOCOLATE

ONE OF THE DISTINGUISHING characteristics of a high-quality truffle is a thin outer coating of tempered couverture. Two coats of chocolate should always be applied, a precoat and a final coat. As the outer shell of tempered chocolate coating hardens, it contracts and tightens around the ganache center, sometimes developing small cracks that allow the ganache or sugar within to seep out of the shell. Precoating truffles can prevent this from happening; it also makes the centers easier to handle and prolongs the shelf life of the final product.

1. To precoat a truffle, smear a small amount of tempered chocolate over the palm of your hand and gently roll the ganache center in the chocolate. It is important, with each coat, to use only enough chocolate for a thin coating; this reduces the chance of the truffles developing feet (chocolate that pools around the base). Set the coated truffle on a parchment-lined sheet pan and repeat the process with the remaining truffles. Allow the precoat to set completely before applying the second, final coating.

2. Apply the final coat of chocolate in the same manner as the precoat, but make a thicker coat by using more chocolate.

TOP LEFT: *After the piped truffles have set, press them between your fingers to make them easier to roll evenly.*

TOP RIGHT: *Roll the truffles between your hands to create a smooth surface.*

BOTTOM LEFT: *To precoat the truffles, roll them in a small amount of tempered chocolate in your hand.*

BOTTOM RIGHT: *Drop the precoated truffles gently onto a sheet pan.*

DIPPING CONFECTIONS

1. To dip a center, place it in the tempered chocolate, slip the dipping fork under the confection in the chocolate, and, with a scooping motion, pick it up so that it is sitting right side up on the fork. When dipping confections, make sure to use a bowl of chocolate large enough to immerse them easily.

2. Gently raise and lower the confection on the fork a few times, allowing the base to just touch the surface of the melted chocolate. This removes excess chocolate from the dipped confection, so a foot does not form. (A foot occurs when excess chocolate pools around the base of the confection.)

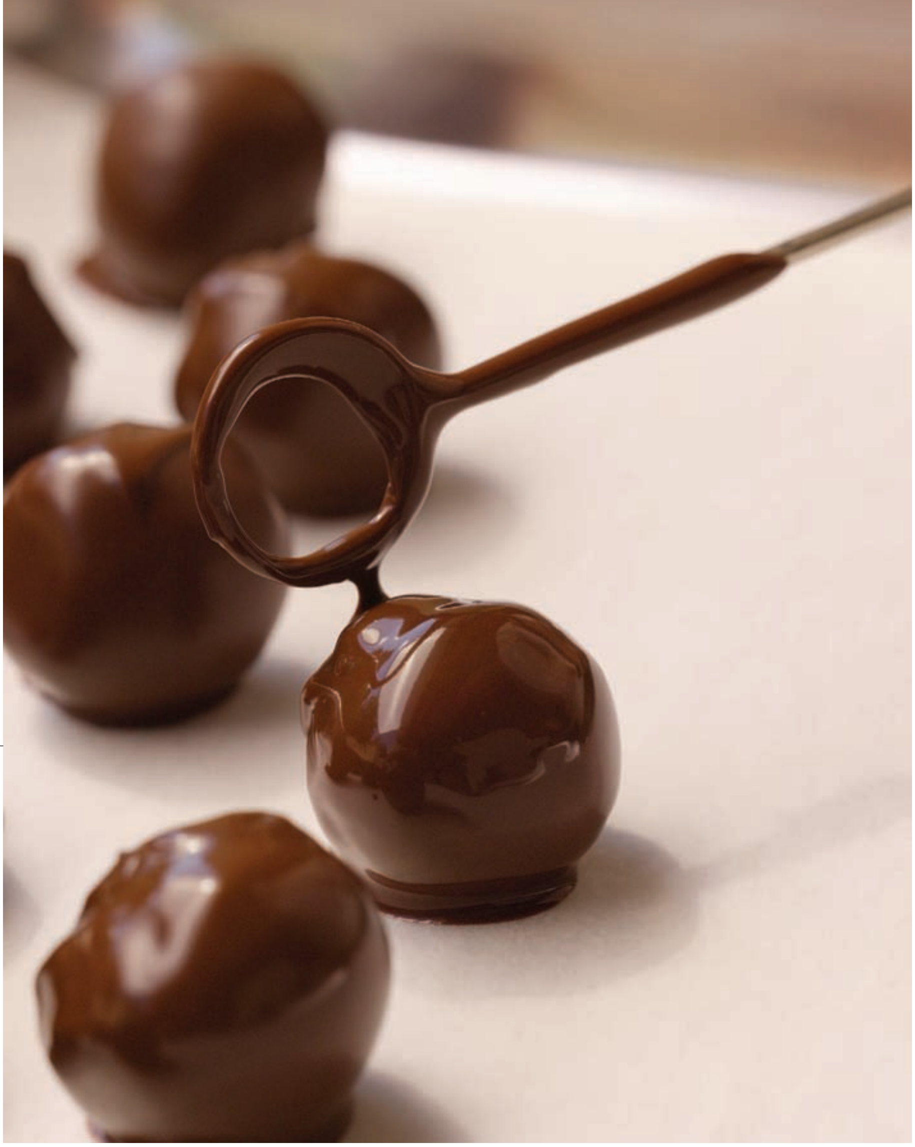
3. Remove the confection from the bowl, gently scraping it on the edge of the bowl to remove any remaining excess chocolate from the base and to slide the confection so that one edge is hanging over the end of the fork. Sliding the confection until one edge is hanging over the end of the fork is done to facilitate a clean and easy transfer of the product from the fork to the sheet pan.

4. Carefully lower that edge of the confection onto the clean parchment-lined sheet pan and gently pull the fork out from under the confection.

Purchased premade chocolate shells can also be used to make truffles (see "Hollow Chocolate Shells," page 915).

LEFT: *Dip the precoated truffle into tempered chocolate using a round or spiral fork.*

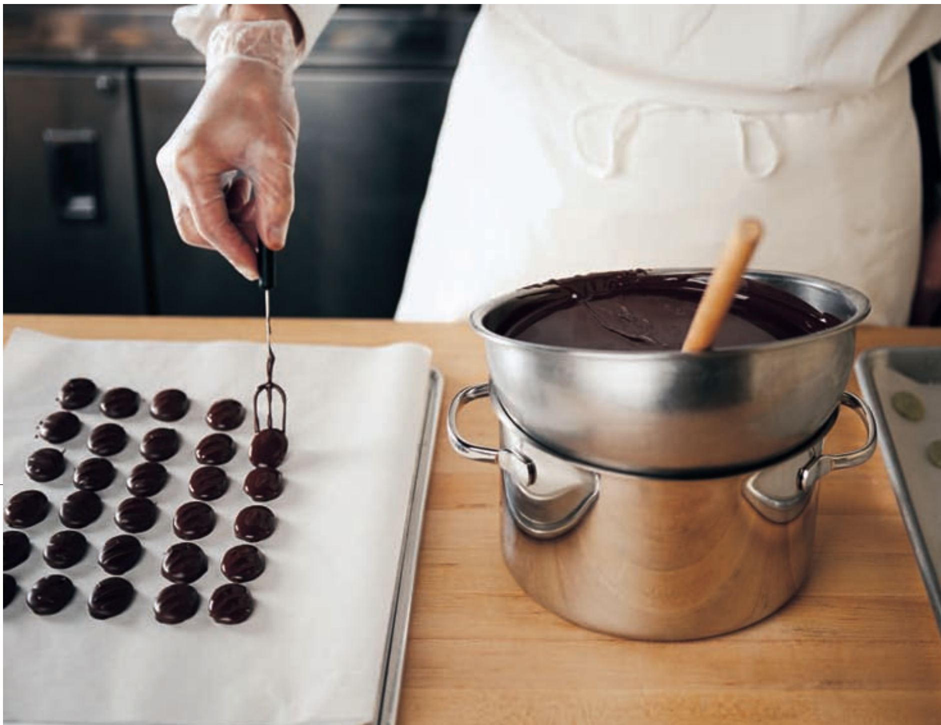
RIGHT: *Repeatedly touch the truffle to the surface of the chocolate to remove excess chocolate.*



Roll the truffle off the fork and onto a sheet tray.

FINISHING TRUFFLES AND CONFECTIONS

DÉCOR IS IMPORTANT IN confectionery not only for eye and taste appeal, but also as a means of differentiating one filling from another. A dusting of cocoa powder is the classic finishing technique for truffles, but they can also be dusted with confectioners' sugar. Truffles and other round confections can also be rolled in a garnish such as chocolate shavings or curls, chopped nuts, or toasted flaked coconut.



Proper workflow for dipping chocolates

Rolling a just-dipped truffle on a wire screen is another option that creates an erratic but aesthetically pleasing spiked surface. When spiking truffles, be sure to remove them from the screen before the chocolate sets completely.

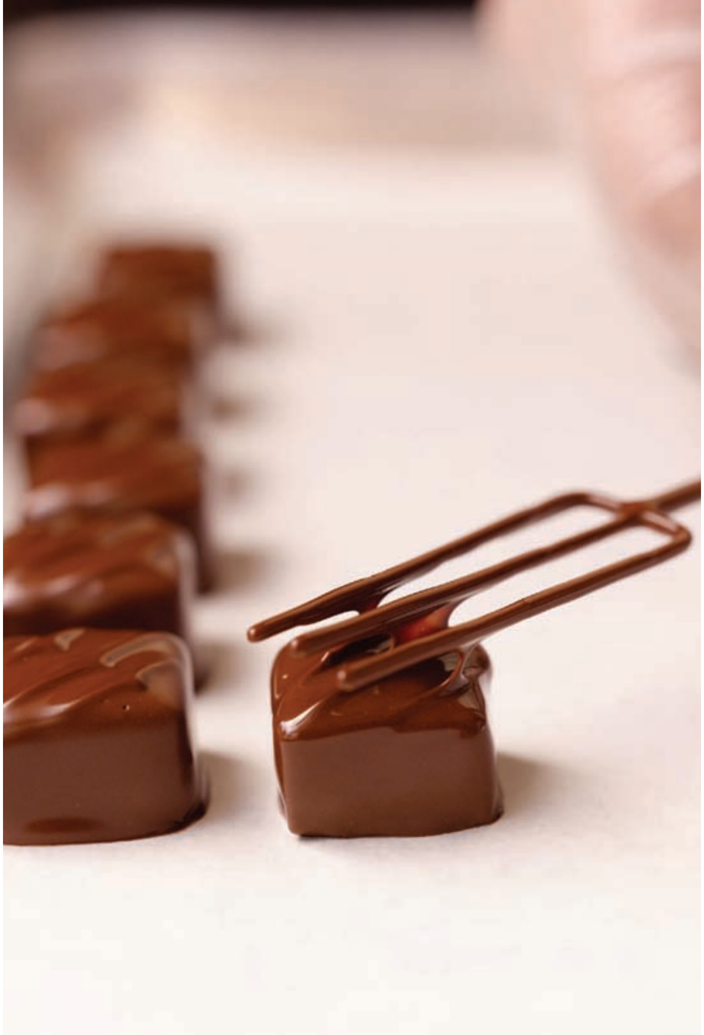
Decorated transfer sheets can be applied to the top of any smooth, flat confection. After the confection has been dipped, immediately lay the transfer sheet on its surface. After the coating is completely set, remove the sheet.

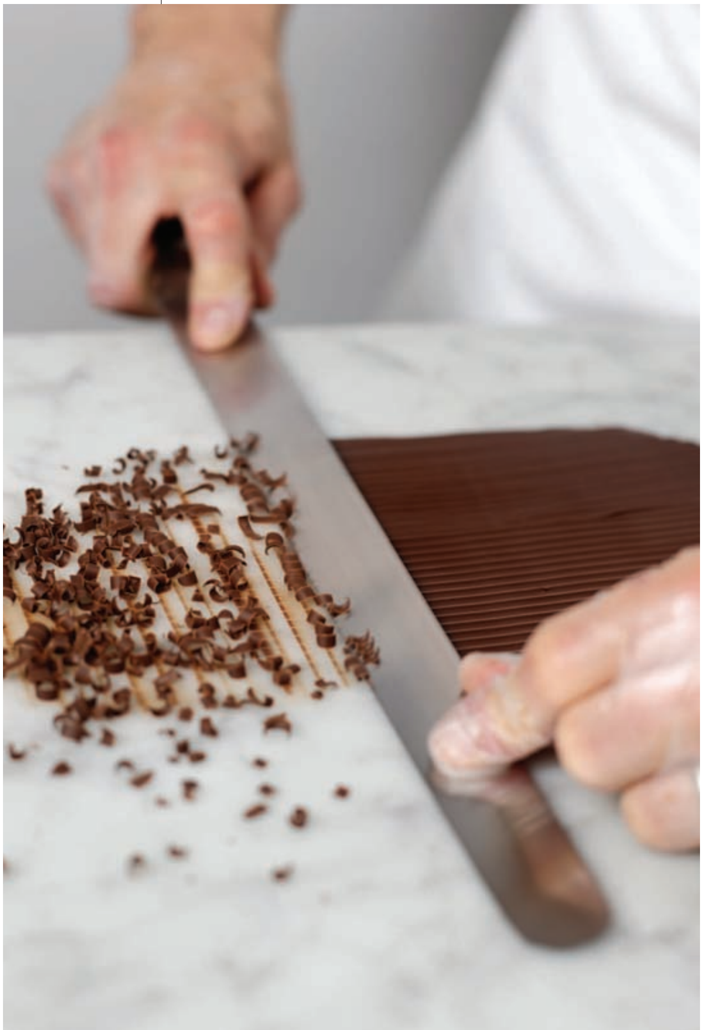
Another common décor for flat confections is made with a dipping fork. After the confection has been dipped, allow it to set for a moment, and then touch the fork to its surface, lifting the chocolate up to create small waves.

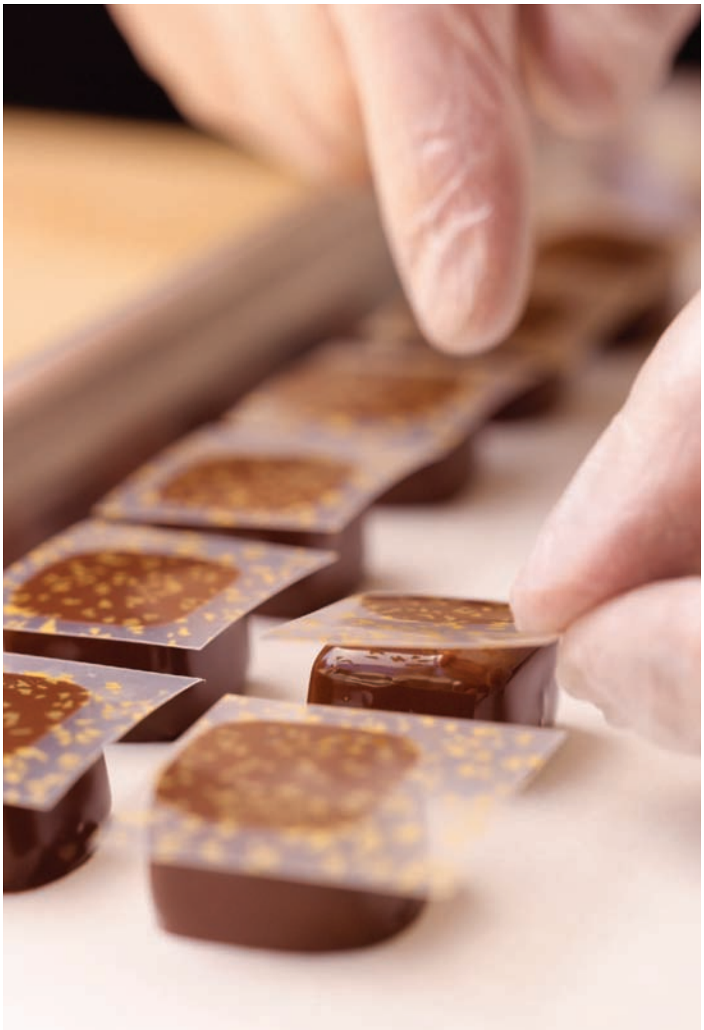
TOP RIGHT: *Creating a decoration with the dipping instrument*

BOTTOM LEFT: *Using a palette knife to create chocolate curls from firm but pliable tempered chocolate*

BOTTOM RIGHT: *Applying a transfer sheet before the chocolate sets, to create a pattern*







HOLLOW CHOCOLATE SHELLS

PREMADE SHELLS GUARANTEE CONSISTENT shape and size, are time efficient, and make packaging easier due to their uniformity. Hollow shells allow for centers that are softer than could be handled for dipping, and create an enjoyable textural contrast between shell and filling. The ganache used in hollow-shell truffles typically contains approximately 25 percent less chocolate than a piped or slabbed ganache. Of course, the cost and quality of the shells must be taken into consideration.

The shells must be filled carefully and completely because any small air pockets will allow mold to grow. Additionally, although hollow shells permit the use of soft fillings, you must be mindful of the water content of fillings and their potential for spoilage.

After the shells are filled, they are capped with chocolate. The cap should extend over the edges of the hole in the shell so that as it hardens and contracts it will remain attached to the shell.

1. Make up the ganache by the cream ganache method, but do not table it. As with the piping method, the chocolate used in the hollow-shell method should be tempered solid chocolate, so that the stable cocoa butter crystals it contains will seed the ganache, resulting in a smooth, uniform texture. Ganache for hollow shells is not agitated, because it does not require as much manual handling as piped ganache, and a softer texture is the goal.

2. Pour the ganache in a shallow layer in the bottom of a hotel pan or sheet pan. Cover directly with plastic wrap on the surface. Pouring the ganache into a thin layer allows for rapid and efficient cooling.

LEFT: *Piping ganache into hollow truffle shells*

RIGHT: *Capping the truffle shells with tempered chocolate*

Covering the ganache with plastic wrap prevents the formation of a skin.

3. Allow the ganache to cool to between 77° and 85°F/25° and 29°C, or to thick nappé consistency. The ganache must be cooled enough that it will not soften or melt the shells when they are filled. The ganache should have a fluid texture, however, or it will very likely trap air inside of the shell, allowing for the growth of mold.

4. Fill the shells with ganache, taking care not to create air pockets. The shells should be filled to the tops, so as not to trap air (see step 3).

5. Allow the ganache to crystallize enough to form a skin. The ganache should be allowed to crystallize at room temperature for several hours or overnight. This will allow the ganache not only to crystallize on the surface but also to contract slightly, facilitating capping. If time is an issue, and it is not possible to allow long crystallization, the shells may be briefly refrigerated for several minutes to allow the surface of the ganache to crystallize. However, refrigerated ganache will not contract as it would with a longer, more thorough crystallization.

6. Cap with chocolate. The truffle shells may be capped with a piping bag and tempered chocolate. If employing a sealing tray to cap the shells, use untempered chocolate instead, which will prevent the filled shells from adhering to the tray. The sealing tray method is particularly efficient if large quantities of truffles are being produced. When using a sealing tray, it is also important that the shells be on a level surface in order for the template to seal against the shells properly.

7. Dip or enrobe, and finish as desired. The filled and capped shells are the equivalent of precoated truffles, and must be dipped or enrobed in chocolate in order to disguise the seam and cap. Any of the usual methods for finishing truffles may be applied to these confections.

MOLDING CHOCOLATES

COUVERTURE IS ALWAYS USED for molding, as its high percentage of cocoa butter makes for a more fluid chocolate. The tempered chocolate used to fill the molds should be as warm as possible within the ideal working temperature range.

1. Clean and temper the molds to room temperature. Chocolate molds should be completely clean and at room temperature before use. They should always be polished with a clean soft cloth to remove any debris or water spots, which would give the surface of the unmolded chocolate a blotchy or dull appearance. The temperature of the mold is also important. If a mold is cold, the chocolate will set too quickly; if the mold is warm, it may bring the chocolate out of temper.

2. When using molds that have an intricate design, first brush some of the chocolate into the mold. Brushing forces chocolate into the crevices of the design, ensuring that the detail of the mold will show clearly when the chocolate is unmolded.

3. Pour the tempered chocolate into the mold, completely filling it.

4. Working quickly, tap or vibrate the mold to release any air pockets and to ensure that the chocolate fills all the crevices.

5. Immediately invert the mold, pouring the excess chocolate back into the container of tempered chocolate, leaving only a thin coating in the mold. Do not reinvert the mold, or chocolate may pool, creating a layer of chocolate that is too thick. Instead, suspend the mold upside down by balancing the edges on two containers or bars over a sheet of clean parchment paper, and let stand until the chocolate in the mold reaches a semisolid consistency.

6. To clean the surface of the mold, hold the mold at a 45-degree angle, bracing one edge against a flat surface; starting halfway up the mold, push a bench scraper down the mold, removing any

chocolate on or above the surface of the mold. The edges of the chocolate must be flush with the surface of the mold so that the chocolate can be properly sealed after filling. If the chocolates are not properly sealed, they will have a shorter shelf life. Turn the mold around and remove excess chocolate from the other half.

7. Fill the mold 80 to 90 percent full with the desired filling, which must be liquid enough so that there is no possibility of creating air pockets.

8. Once it is filled, tap or vibrate the mold to release any air bubbles and settle the filling. To ensure that the mold is not overfilled, hold the mold up at eye level and look across the surface; there should be no filling visible above the surface. Any excess filling should be removed before the seal coat of chocolate is applied, or the filling will become mixed into the chocolate, which will not harden or effectively seal the confection.

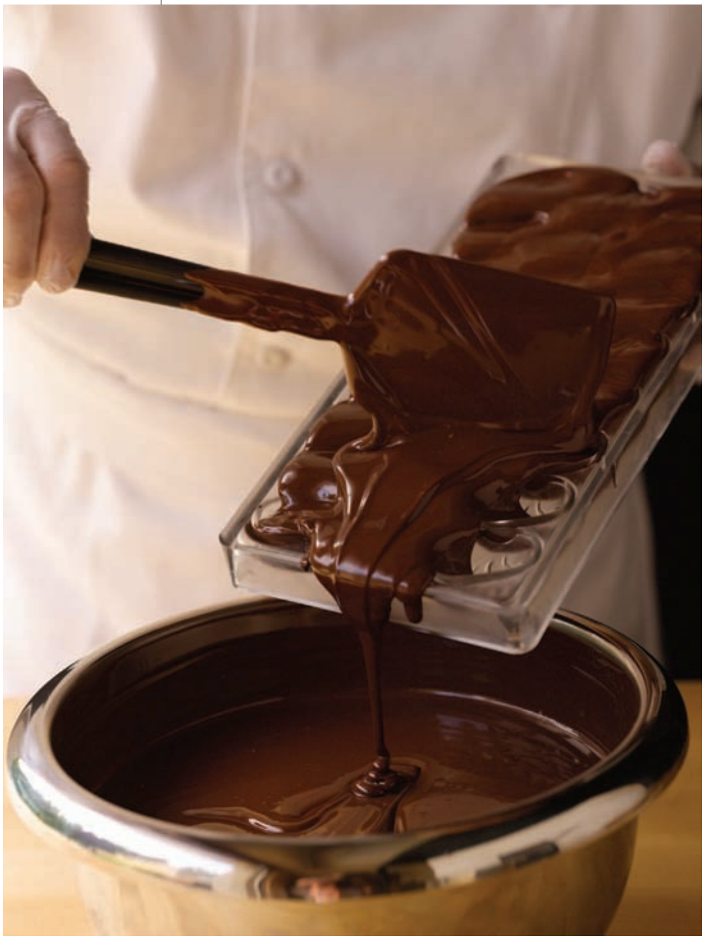
9. Coat and seal the molded confections by drizzling on a thin layer of tempered chocolate, then gently spreading the chocolate out to cover and completely seal.

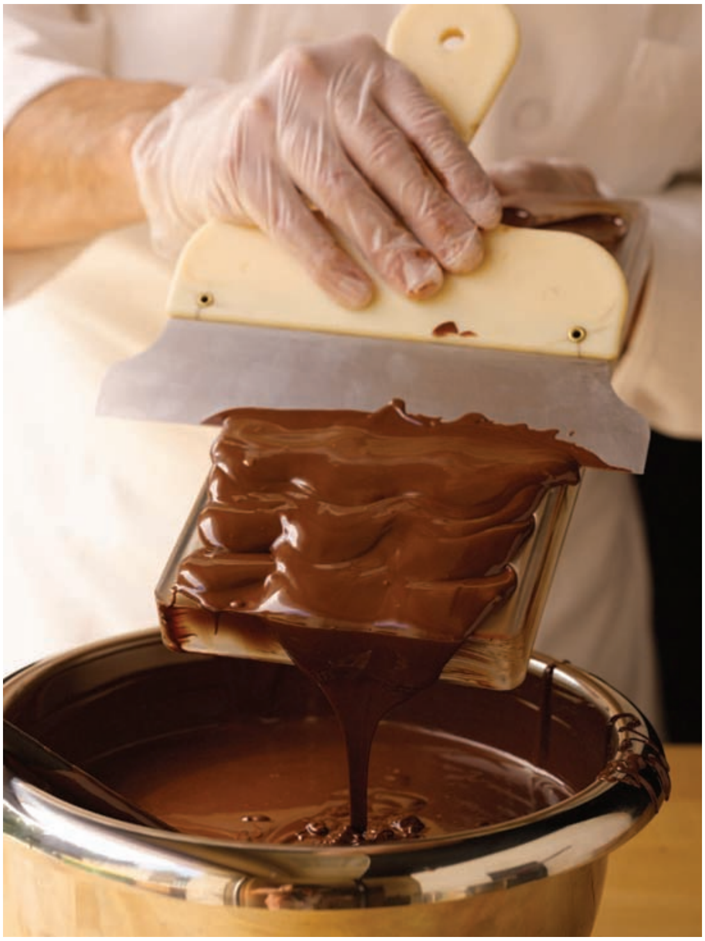
10. Let stand until the chocolate is in a semisolid state (it should be wet and tacky but not fluid), then clean the surface of the mold using a bench scraper as described above.

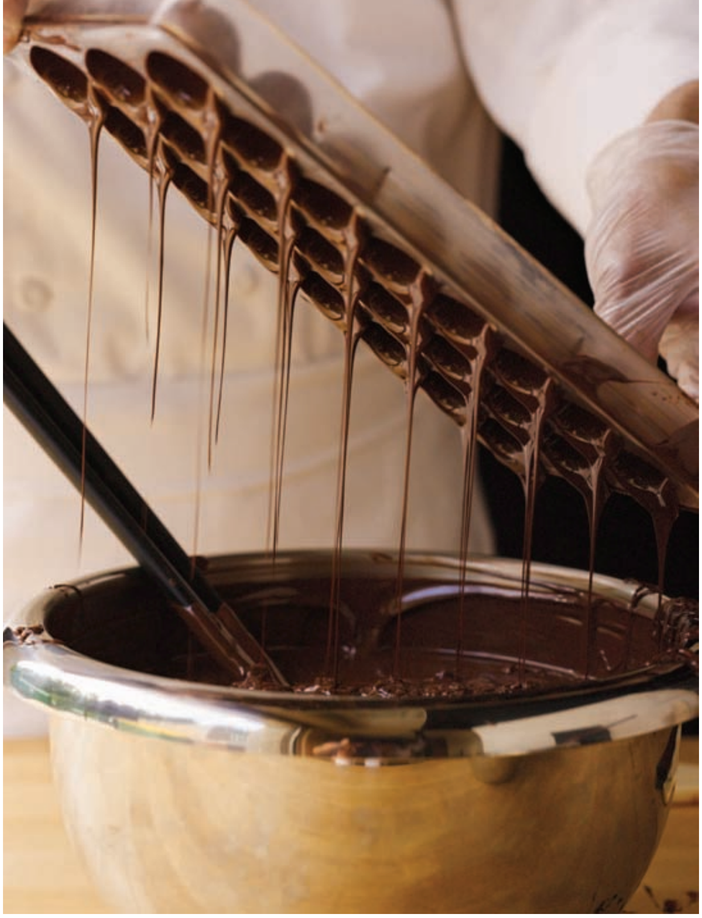
11. Chill molded chocolates under refrigeration for 5 to 10 minutes; do not freeze. To test whether the chocolates are ready to be unmolded, give the tray a slight twist; you should hear a crackle. With clear plastic molds, you can check the underside to see if the chocolates are releasing.

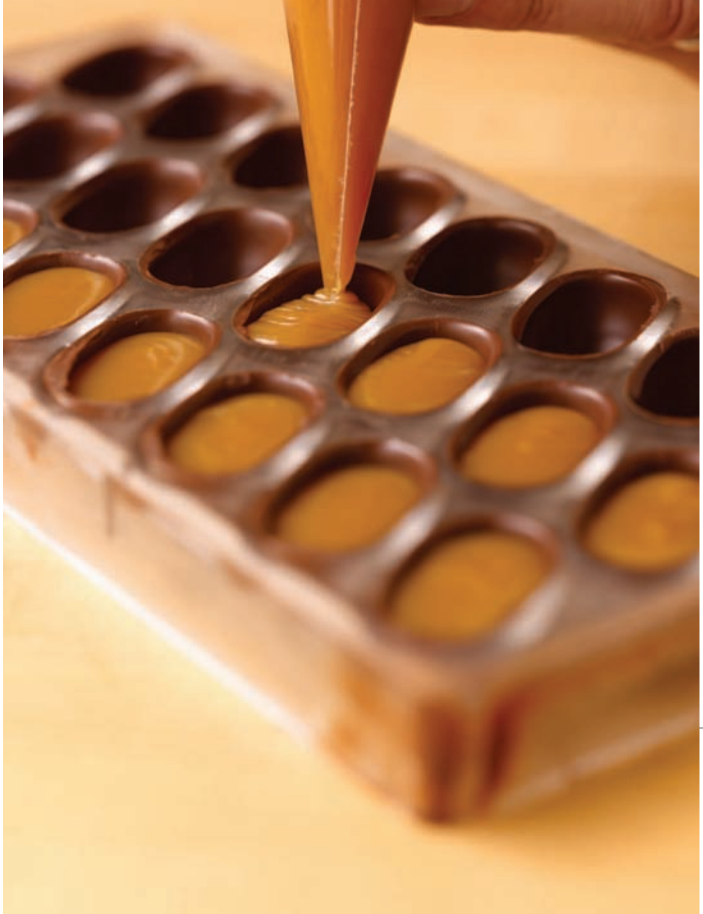
LEFT: *Generously fill the molds with tempered chocolate.*

RIGHT: *Use a scraper or palette knife to remove the excess chocolate from the top of the mold.*



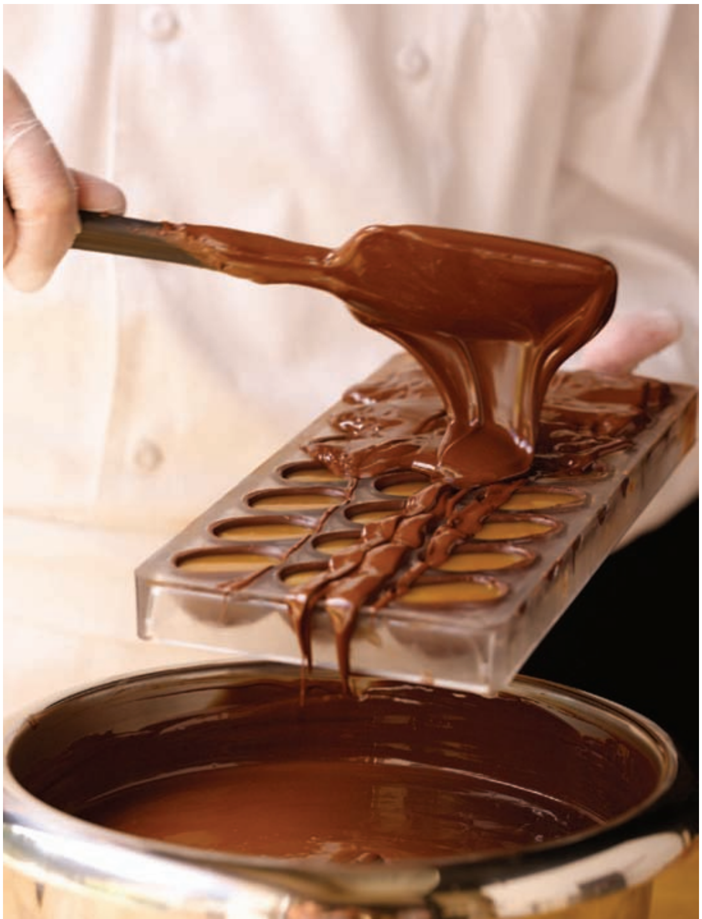






12. To unmold, turn the mold upside down and, holding it at a 45-degree angle, gently but firmly tap it once. Molded chocolates must be handled carefully at every step of the process.

Even when finished, the chocolates can be damaged easily; picking up fingerprints, smudges, scratches, and the like will render a delicious product visually unappealing.



ROCHERS

TOP LEFT: *Invert the mold over a bowl to drain off the excess chocolate.*

TOP RIGHT: *Pipe desired filling into the molds, leaving room for a cap.*

BELOW LEFT: *Ladle tempered chocolate over the mold to cap each piece.*

BELOW RIGHT: *A variety of molded chocolate shapes*

THE IDEAL ROCHER IS shaped like a haystack. The individual shapes of the nuts or candied fruit should be clearly visible through the chocolate. Tossing the nuts or fruit with melted cocoa butter before adding the chocolate will act to thin the chocolate and give more definition to the shape of the nuts or fruits.

Work quickly and in small batches when making rochers. If the chocolate is too firm when it is deposited, the confections will not hold together and will have a dull finish.

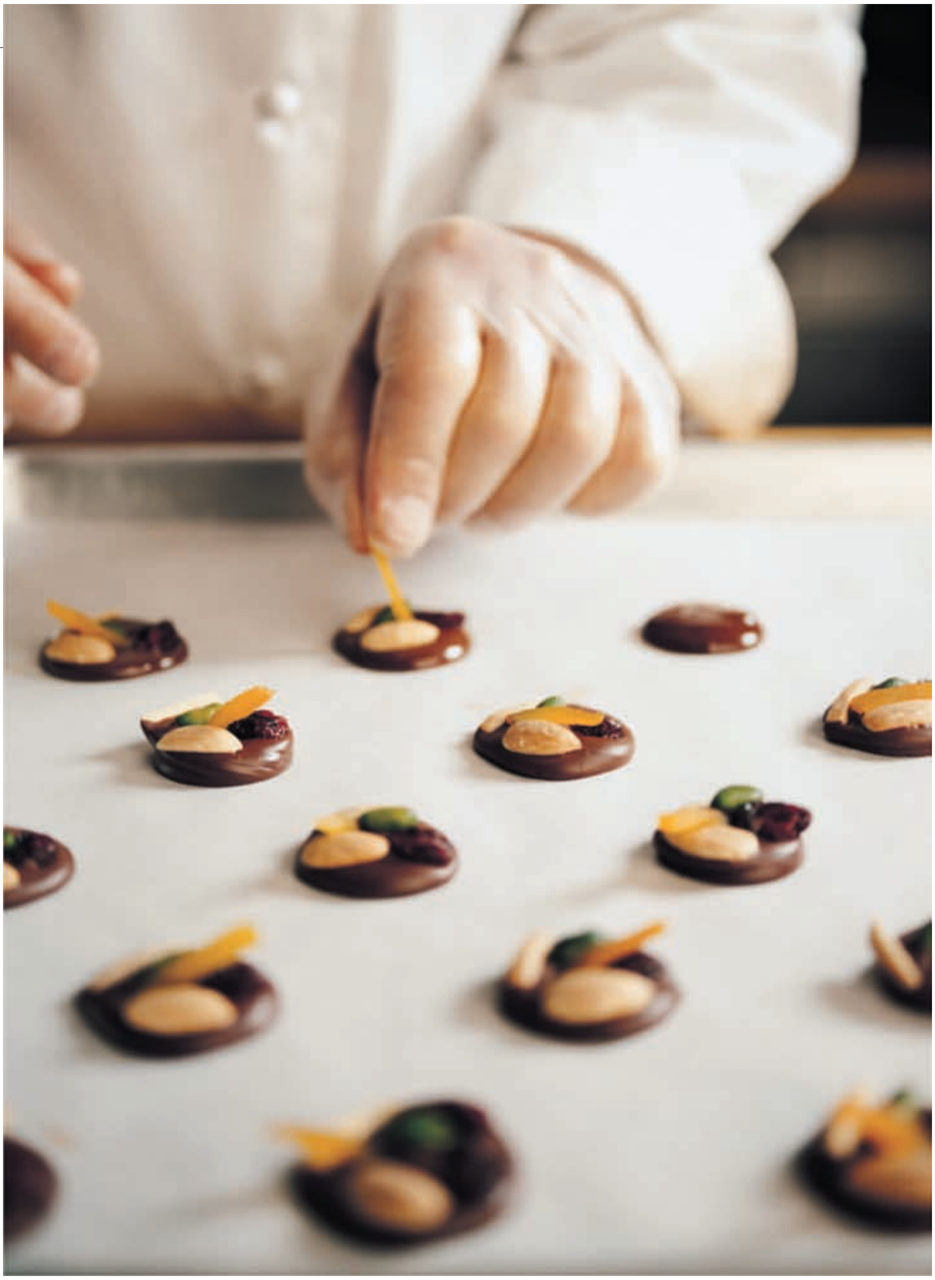
Incorporating the nut-fruit mixture with the thinned chocolate

Depositing the prepared rochers on a sheet pan

MENDIANT

FOR MENDIANT, AS WITH rochers, it is important to work in small, manageable batches to ensure the chocolate disks do not set too much or completely before the garnish is added.

Mendiant



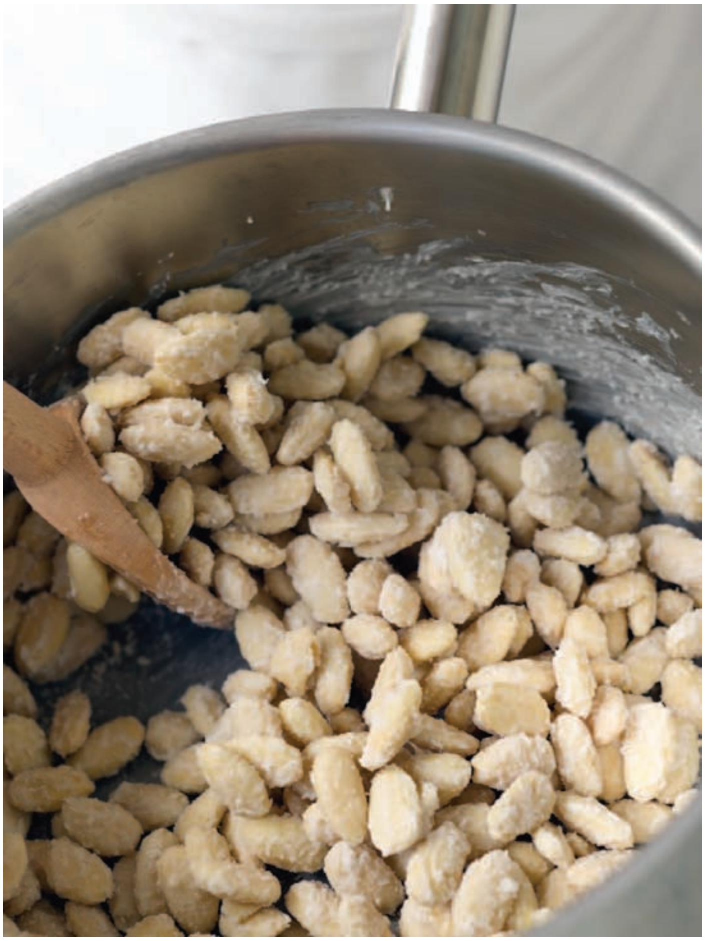
GIANDUJA

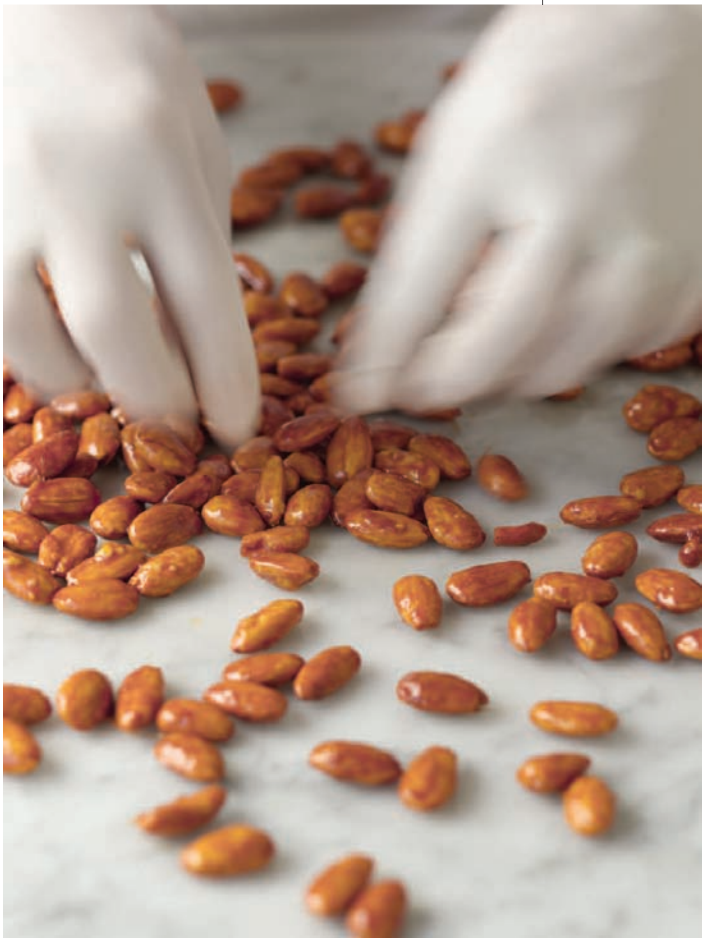
GIANDUJA MAY BE MADE with any variety of chocolate—dark, milk, or white. It is traditionally made with either hazelnuts or almonds, but other nuts may be substituted in part or in whole. The nuts can be roasted to any degree desired.

The final variable in the production of gianduja is the ratio of nuts to sugar to chocolate. For a firmer gianduja, use more chocolate. For a softer gianduja, use less. The basic ratio for a medium-consistency gianduja that is suitable for candy centers is 1 part nuts to 1 part sugar to 1 part dark chocolate (or 1¼ parts milk or white chocolate). If possible, gianduja should be ground in a mélangeur for the smoothest texture, but a food processor will make an acceptable gianduja. When using a food processor, always use confectioners' sugar, not granulated. Because of its low moisture content, gianduja is not prone to spoilage and has a long shelf life.

DRAGÉES

TO ENSURE THE DESIRABLE thin coating of caramel, only a relatively small amount of sugar is used when making dragées. The larger the nut, the less sugar you should use. Typical proportions by weight vary from 3 parts nuts to 1 part sugar for small nuts to 6 parts nuts to 1 part sugar for large nuts. The nuts used for dragées should not be toasted, as they will roast as the sugar caramelizes.





LEFT: *The sugar syrup crystallized on the nuts*

RIGHT: *Pulling the nuts apart on a marble after the sugar casing has caramelized*

LEFT: *Adding the chocolate and stirring to coat the dragée nuts*

RIGHT: *A variety of dragées*

COOKING SUGAR TO DIFFERENT STAGES

WHEN COOKING SUGAR, all your equipment must be clean and free of any grease. The sugar must also be free of impurities, such as flour or other ingredients. Sugar has a very high caramelization point and any impurities in the sugar are likely to burn at a much lower temperature, before the sugar begins to caramelize. A copper or other heavy-bottomed saucepan should be used to ensure constant, even heat. Sugar may be cooked by one of two methods: wet or dry.

When cooking or caramelizing sugar by any method, a small amount of an acid (typically lemon juice at approximately ¼ tsp/1.25 mL for 8 oz/230 g of sugar) can be added to help prevent crystallization from occurring during cooking. (For more information on crystallization, see “Wet Method,” this page.)

Regardless of the cooking method, when caramelizing sugar it is important to stop the cooking process by shocking the pan in an ice water bath just as, or just before, it reaches the desired color. Sugar retains heat and can easily become too dark or burn if the cooking process is not arrested.

It is also important to heat any liquids to be added to the caramel and to add them carefully. Caramelized sugar is very hot and will splatter when a colder ingredient is introduced.

WET METHOD

The wet method of sugar cooking dissolves the sugar in water; then as the solution cooks, the water evaporates, acting to increase the concentration of sugar and resulting in a supersaturated, noncrystalline sugar solution. The concentration of the sugar solution increases as the solution is cooked, the temperature increases, and more of the water evaporates. The wet method is best used when sugar must be cooked to a specific stage or temperature.

1. To cook sugar by the wet method, use a heavy-bottomed pot to ensure even heat conduction. The water should equal approximately 30 percent of the weight of the sugar. If too little water is used, there may be undissolved sugar crystals in the syrup, which may cause recrystallization.

2. Place the pan over high heat and stir constantly until the mixture comes to a boil to ensure all the sugar is melted. As the dissolved sugar is heated, the water evaporates, acting to increase the concentration of sugar; as the temperature increases, water continues to evaporate, leaving behind a supersaturated noncrystalline sugar solution. Stirring constantly is important, as agitation will prevent the collision of particles in the solution that lead to crystallization.

3. Once it has come to a boil, stop stirring and skim off any impurities.

4. Using a pastry brush, wash down the sides of the pan with cool water to prevent crystals from forming. Crystallization of the cooking sugar occurs readily on the side of the pan where crystals are deposited from evaporating liquid. These crystals, in turn, can easily act to "seed" the rest of the sugar in the pan, causing it to begin to crystallize, becoming lumpy and granular. A "seed" in this context is anything that will act as a surface hosting the growth of sugar crystals. Examples of seeds are whole sugar crystals, air bubbles, or skewers (as sometimes used in making candy). Brushing the sides of the pan with cool water prevents crystals from forming by adding moisture lost in evaporation during cooking. Repeat as often as necessary to keep the sides of the pan clean until the sugar has reached the desired temperature, consistency, and color.

Caramelize part of the sugar and add the remainder in parts for an even, smooth caramel.

Sugar Stages and Temperatures

STAGE	DEGREES FAHRENHEIT	DEGREES CELSIUS
Thread	215–230	102–110
Soft ball	240	116
Firm ball	245	118
Hard ball	250–260	121–127
Soft crack	265–270	129–132
Hard crack	295–310	146–154
Caramel	320	160

5. Add the acid ingredient (cream of tartar, lemon juice, etc.), if using. Adding a small amount of an acid can help prevent crystallization during cooking; when boiled with a dilute acid, sugar will result in an invert sugar that interferes with the crystallization process.

DRY METHOD

The dry method is used exclusively for caramelizing. The characteristically nutty and roasted flavor of caramel is best achieved through the use of this method.

1. Add a small amount of the sugar to a preheated medium-hot pan set over medium heat and allow it to melt.

2. Add the remaining sugar in small increments, allowing each addition of sugar to fully melt before adding the next. Continue this process until all the sugar has been added to the pan. Cook to the desired color. Using this method, sugar crystals are melted through the application of heat, resulting in sugar that caramelizes almost as soon as it melts. Because it cooks so quickly, it is important to monitor the sugar constantly.

Of the two techniques for cooking sugar—wet and dry—only the wet method allows the sugar to be cooked to and used at the various stages that are vital for countless preparations. The dry method of sugar cooking is only used to make caramelized sugar.

SOFT CARAMELS

IF THE MIXTURE FOR caramels is undercooked, they will be too soft and will not have the proper caramel flavor. If it is overcooked, they will be too firm. Although a thermometer is helpful in making caramels, the final assessment of whether the caramel is ready should be determined by testing the batch using ice water and a spoon. If the caramel is too firm, more liquid can be added to adjust the consistency.

Soft caramels may be flavored in any number of ways. Strong flavorings such as coffee beans, hazelnut paste, or spices can be added to the cream at the beginning of the cooking process. To make fruit caramels, replace up to half of the liquid in the recipe with a fruit purée. When using a fruit purée, it is advisable to cut the amount of glucose syrup by half, and it is likely that you will have to cook the caramels to a higher temperature to achieve the same consistency, due to the acidity of the fruit and the reduced amount of milk solids in the formula.

LEFT: *Pouring soft caramels between bars*

RIGHT: *Cutting the caramel once it is properly set*

PEANUT BRITTLE

SOME CAUTION IS NECESSARY when making peanut brittle. Temperature and color must be carefully monitored to achieve the characteristic flavor and texture. If your peanut brittle is pale or milky white and granular, it probably was either not cooked to a high enough temperature or was stirred too much and/or too rapidly during cooking. Peanut brittle demands a slow, steady stir, especially after the peanuts have been added. As a general rule, if the mixture has reached the proper temperature but the color is not fully developed, continue cooking to the desired color.

Spreading peanut brittle onto oiled marble

HARD CANDIES

OILS, EXTRACTS, AND CONCENTRATED synthetic or natural flavors are the most common flavorings used for hard candies. These flavorings are added at the end of the cooking process because they are often not heat-stable and because any acid they contain will prevent the finished product from becoming completely hard. Hard candies can be poured onto a marble surface, partially cooled, and then pulled and cut, or they can be cast in starch molds or other types of molds.

CARAMEL GANACHE

MAKES 180 PIECES

TOP TO BOTTOM: *Caramel Ganache with dots (this page) and Dark and Stormies with ridges (page 928), Rum Truffles (page 932), Truffle Truffles (page 929), Earl Grey Ganache Truffles (page 933), Coffee Poodles (page 934), Caramel Ganache (this page) and Dark and Stormies, Dulce de Leche Coffee Truffles (page 930)*

INGREDIENT	U.S.	METRIC
Sugar	3 oz	80 g
Lemon juice	5 drops	5 drops
Glucose syrup	3 oz	80 g
Heavy cream, hot	11 oz	310 g
Brandy	1 oz	30 g
Butter, very soft	1 oz	30 g
Milk chocolate, melted, tempered, at 86°F/30°C	1 lb 12 oz	800 g
Milk chocolate, melted, tempered, for coating and dipping	As needed	As needed
Dark chocolate, melted, tempered, for piping	As needed	As needed

1. Rub the sugar together with the lemon juice.

2. Caramelize the sugar until amber in a saucepan using the dry method (see page 923).

3. Add the glucose syrup to the caramel.

4. Stream the hot cream into the caramel while over low heat. Be certain that the caramel is entirely incorporated into the cream.

5. Remove the caramel-cream mixture from the heat. Add the brandy and allow to cool to 104°F/40°C.

6. Massage the butter into the tempered chocolate, being certain that no lumps of butter remain.

7. Pour the cream mixture over the chocolate, and stir in small circles outward, using a paddle, to emulsify.

8. Spread in a 12 by 12 by ½-in/30 by 30 by 1-cm frame on a heavy plastic or acetate sheet.

9. Cover and allow to crystallize overnight at room temperature.

10. Precoat one side of the slab with tempered milk chocolate.

11. Cut on a guitar using the ⅝-in/1.5-cm and 1-in/3-cm strings.

12. Dip in tempered milk chocolate. After setting, pipe a filigree of tempered dark chocolate lengthwise on the pieces.

DARK AND STORMIES

MAKES 180 PIECES

INGREDIENT	U.S.	METRIC
Heavy cream	6 oz	170 g
Ginger, sliced	3 oz	90 g
Vanilla bean, scraped	½	½
Milk	As needed	As needed
Glucose syrup	1½ oz	40 g
Dark rum (preferably Bermudan)	3 oz	90 g
Butter, very soft	1½ oz	40 g
White chocolate, melted, tempered, at 86°F/30°C	2 lb 3 oz	1 kg
Dark chocolate, melted, tempered, for coating and dipping	As needed	As needed

1. Combine the cream, ginger, and vanilla bean pod and seeds and bring to boil. Remove from the heat, cover, and steep for 5 minutes.

2. Strain the aromatics out of the cream using pre-moistened cheesecloth.

3. Return the cream to its original weight by adding milk.

4. Combine the cream mixture with the glucose syrup and bring to a boil.

5. Remove from the heat, add the rum, and allow to cool to 104°F/40°C.

6. Massage the butter into the tempered chocolate.

7. Pour the cream over the white chocolate. Stir, using a paddle, to emulsify.

8. Pour immediately into a 12 by 12 by ½-in/30 by 30 by 1-cm frame on a heavy plastic or acetate sheet.

9. Cover and allow to crystallize overnight at room temperature.

10. Precoat one side of the slab with tempered dark chocolate.

11. Cut on a guitar, using the ⅝-in/1.5-cm and 1-in/3-cm strings.

12. Dip in tempered dark chocolate. Make a wave on the surface with a 3-tine fork.

TRUFFLE TRUFFLES

MAKES 120 PIECES

INGREDIENT	U.S.	METRIC
Heavy cream	7 oz	200 g
Glucose syrup	2 oz	60 g
Chocolate, finely chopped	15 oz	420 g
Cognac	1½ oz	40 g
Butter, softened	½ oz	14 g
White truffle oil (see Chef's Note)	¾ tsp	4.5 mL
Dark chocolate, melted, tempered, for dipping	As needed	As needed
Cocoa powder, sifted, for finishing	As needed	As needed

1. Combine the cream and glucose syrup in a saucepan. Bring to a boil.

2. Pour the hot cream mixture over the chopped chocolate and allow to stand for 1 minute to allow the chocolate to melt.

3. Use a spoon, stirrer, or spatula to stir the mixture in vigorous small circles in the center of the bowl until it emulsifies.

4. Stir outward in larger circles to spread the emulsion throughout the bowl.

5. Check to be certain that all of the chocolate has melted. If it has not, place the ganache over a warm water bath and heat to melt. Do not exceed 93°F/34°C.

6. Stream in the cognac until homogeneous.

7. Mix in the butter and truffle oil.

8. Pour the ganache into a hotel pan to make a thin layer and cover directly on the surface with plastic wrap. Allow to rest at room temperature until the ganache reaches a slightly firm, plastic consistency. This may take 1 hour depending on the ambient temperature.

9. Place the ganache on a marble surface and agitate lightly to induce crystallization.

10. Using a #4 tip, pipe truffles onto a sheet of parchment paper.

11. Allow to crystallize at room temperature until firm enough to handle, about 20 minutes.

12. Roll the piped truffles round.

13. Precoat the truffles in tempered chocolate by hand dipping.

14. Dip the precoated truffles in tempered chocolate, using a round fork.

15. Roll the dipped truffles in cocoa powder immediately.

CHEF'S NOTE

The amount of white truffle oil may vary widely depending on the strength of the oil and on the desired flavor.

DULCE DE LECHE COFFEE TRUFFLES

MAKES 170 PIECES

INGREDIENT	U.S.	METRIC
Dulce de leche (see Step 1)	28 oz	800 g
Sweetened condensed milk	1 lb 12 oz	790 g
Heavy cream	10 oz	280 g
Coffee beans, coarsely ground	1½ oz	40 g
Milk	As needed	As needed
Glucose syrup	2 oz	60 g
Milk chocolate, finely chopped	15 oz	430 g
Irish cream liqueur	2 oz	60 g
Milk chocolate truffle shells	170	170
Milk chocolate, melted, untempered, for sealing (optional)	As needed	As needed
Milk chocolate, melted, tempered, for sealing and dipping	As needed	As needed
Instant coffee granules	As needed	As needed

1. Make the dulce de leche by immersing two 14-oz/400-g cans of sweetened condensed milk in simmering water and leaving it to simmer for 5 hours (see Chef's Note). Remove from the water and allow to cool to room temperature.

2. Combine the cream and ground coffee and bring to a boil. Remove from the heat, cover, and steep for 5 minutes.

3. Strain the coffee out of the cream using pre-moistened cheesecloth.

4. Return the weight of the cream to 10 oz/280 g by adding milk.

5. Add the glucose syrup to the cream mixture and bring to a boil.

6. Pour the hot cream mixture over the chopped chocolate and allow to stand for 1 minute to allow the chocolate to melt.

7. Use a spoon, stirrer, or spatula to stir the mixture in vigorous small circles in the center of the bowl until it emulsifies.

8. Stir outward in larger circles to spread the emulsion throughout the bowl.

9. Check to be certain that all of the chocolate has melted. If it has not, place the ganache over a warm water bath and heat to melt. Do not exceed 93°F/34°C.

10. Stream in the Irish cream liqueur until homogeneous.

11. Pour the ganache into a hotel pan to make a thin layer and cover directly on the surface with plastic wrap.

12. Allow to rest at room temperature until the ganache reaches 77°F/25°C or slightly lower. The ganache should be a thick but fluid consistency.

13. Using a disposable pastry bag with a small opening cut in the tip, fill the truffle shells halfway to the tops with the soft caramel.

14. Using a disposable pastry bag with a small opening cut in the tip, fill the truffle shells the rest of the way with the ganache.

15. Allow the ganache to crystallize at room temperature until the top is solid.

16. Seal the truffles using either untempered milk chocolate with a sealing tray or tempered milk chocolate with a paper cone.

17. Dip the truffles in tempered milk chocolate using a round dipping fork.

18. As the chocolate begins to set, drop a pinch of instant coffee over the tops of the truffles.

CHEF'S NOTE

Dulce de leche may be made days in advance if desired. Be certain that the can of milk is at all times fully immersed in water to avoid potential bursting of the can.

RUM TRUFFLES (FOR HOLLOW SHELLS)

MAKES 125 PIECES

INGREDIENT	U.S.	METRIC
Heavy cream	10 oz	280 g
Milk	3 oz	90 g
Glucose syrup	3½ oz	100 g
Dark chocolate, finely chopped	1 lb 2 oz	510 g
Rum	2½ oz	70 g
Dark chocolate hollow shells	125	125
Dark chocolate, melted, untempered, for sealing (optional)	As needed	As needed
Dark chocolate, melted, tempered, for sealing and dipping	As needed	As needed

1. Combine the cream, milk, and glucose syrup in a saucepan. Bring to a boil.

2. Pour the hot cream mixture over the chopped chocolate and allow to stand for 1 minute to allow the chocolate to melt.

3. Use a spoon, stirrer, or spatula to stir the mixture in vigorous small circles in the center of the bowl until it emulsifies.

4. Stir outward in larger circles to spread the emulsion throughout the bowl.

5. Check to be certain that all of the chocolate has melted. If it has not, place the ganache over a warm water bath and heat to melt. Do not exceed 93°F/34°C.

6. Stream in the rum until homogeneous.

7. Pour into a hotel pan to make a thin layer and cover directly on the surface with plastic wrap.

8. Allow to rest at room temperature until the ganache reaches 77°F/25 C. or slightly lower. The ganache should be a thick but fluid consistency.

9. Using a disposable pastry bag with a small opening cut in the tip, fill the truffle shells to the tops with the ganache.

10. Allow the ganache to crystallize at room temperature until the top is solid.

11. Seal the truffles using either untempered dark chocolate with a sealing tray or tempered dark chocolate with a paper cone.

12. Dip the truffles in tempered dark chocolate using a round dipping fork.

13. Finish as desired with texture, garnish, or filigree.

EARL GREY GANACHE TRUFFLE

MAKES 180 PIECES

INGREDIENT	U.S.	METRIC
Heavy cream	12½ oz	350 g
Earl Grey tea leaves	½ oz	14 g
Milk	As needed	As needed
Glucose syrup	4 oz	110 g
Dark chocolate, melted, tempered, at 90°F/32°C	11 oz	310 g
Milk chocolate, melted, tempered, at 86°F/30°C	1 lb 1 oz	480 g
Butter, soft	3 oz	90 g
Milk chocolate, melted, tempered, for coating and dipping	As needed	As needed
Dark chocolate, melted, tempered, for piping	As needed	As needed

1. Combine the cream and tea leaves and bring to a boil. Remove from the heat, cover, and steep for 5 minutes.
2. Strain the tea out of the cream using pre-moistened cheesecloth.
3. Return the weight of the cream to 12½ oz/350 g by adding milk.
4. Add the glucose syrup to the cream mixture and bring to a boil.
5. Remove from the heat, and allow to cool to 104°F/40°C.
6. Combine the two tempered chocolates. Massage the butter into the tempered chocolates, being certain that no lumps of butter remain.
7. Pour the cream mixture over the chocolate, and stir in small circles outward, using a paddle, to emulsify.
8. Spread into a 12 by 12 by ½-in/30 by 30 by 1-cm frame on heavy plastic sheet.
9. Cover and allow to crystallize overnight at room temperature.
10. Precoat one side of the slab with tempered milk chocolate.
11. Cut on a guitar using the ⅝-in/1.5-cm and 1-in/3-cm strings.
12. Dip in tempered milk chocolate. After setting, pipe a filigree of dark chocolate lengthwise on each piece.

COFFEE POODLES

MAKES 120 PIECES

INGREDIENT	U.S.	METRIC
Heavy cream	6 oz	170 g
Dark roast coffee beans, coarsely ground	½ oz	14 g
Milk	As needed	As needed
Glucose syrup	2 oz	60 g
Dark chocolate, unmelted, tempered, chopped	14 oz	400 g
Coffee liqueur	1½ oz	40 g
Butter, very soft	1½ oz	40 g
Dark chocolate, melted, tempered, for coating and dipping	As needed	As needed
Chocolate curls (see page 914)	As needed	As needed

1. Combine the cream and ground coffee and bring to a boil. Remove from the heat, cover, and allow to steep for 5 minutes.

2. Strain the coffee out of the cream using pre-moistened cheesecloth.

3. Return the weight of the cream to 6 oz/170 g by adding milk.

4. Add the glucose syrup to the cream mixture and bring to a boil.

5. Pour the hot cream mixture over the chopped chocolate and allow to stand for 1 minute to allow the chocolate to melt.

6. Use a spoon, stirrer, or spatula to stir the mixture in vigorous small circles in the center of the bowl until it emulsifies.

7. Stir outward in larger circles to spread the emulsion throughout the bowl.

8. Check to be certain that all of the chocolate has melted. If it has not, place the ganache over a warm water bath and heat to melt. Do not exceed 93°F/34°C.

9. Stream in the coffee liqueur until homogeneous.

10. Massage the butter into the ganache.

11. Pour into a hotel pan to make a thin layer and cover directly on the surface with plastic wrap.

12. Allow to rest at room temperature until the ganache reaches a slightly firm, plastic consistency. This may take 1 hour, depending on the ambient temperature.

13. Place the ganache on a marble surface and agitate lightly to induce crystallization.

14. Pipe truffles using a #3 round tip. Allow to crystallize at room temperature until firm enough to handle, about 20 minutes.

15. Roll the piped truffles by hand into round balls.

16. Precoat the truffles in tempered dark chocolate by hand dipping.

17. Dip the precoated truffles in tempered dark chocolate using a round fork. Place into the chocolate curls.

18. When the chocolate begins to set, using two forks roll the truffles in the curls to completely coat them.

19. Place the finished truffles on parchment. Allow to fully crystallize.

ALMOND DRAGÉES

MAKES 110 PIECES

INGREDIENT	U.S.	METRIC
Sugar	5 oz	140 g
Water	1½ oz	40 g
Almonds, whole, blanched	1 lb	450 g
Butter	½ oz	14 g
Dark chocolate, melted, tempered	12 oz	340 g
Cocoa powder	½ oz	14 g

1. Combine the sugar and water in a heavy-bottomed saucepan and stir to ensure that all the sugar is moistened. Bring to a boil over high heat, stirring constantly. When the syrup comes to a boil, stop stirring and skim the surface to remove any scum. Continue to cook without stirring until the syrup reaches the thread stage (215° to 230°F/102° to 110°C). Remove from the heat.

2. Immediately add the nuts and stir until the sugar crystallizes. Return to the heat and stir constantly until the sugar melts and caramelizes on the nuts.

3. Stir in the butter. Pour the mixture onto a marble surface and immediately separate the clusters of nuts. Allow to cool completely on the marble, then place in a bowl and chill for 3 minutes under refrigeration.

4. Add 4 oz/110 g of the tempered chocolate and stir (so the nuts don't stick together) until the chocolate sets. Repeat with another 4 oz/110 g chocolate. Add the remaining 4 oz/110 g chocolate and stir until it is almost set. Add the cocoa powder and stir to coat. Toss the nuts in a strainer to sift off the excess cocoa powder.

VARIATIONS

HAZELNUT DRAGÉES *Substitute whole blanched hazelnuts for the almonds.*

WALNUT DRAGÉES *Substitute walnut halves for the almonds.*

ROCHERS

MAKES 110 PIECES

INGREDIENT	U.S.	METRIC
Almonds, blanched, sliced or slivered	1 lb	450 g
Liqueur or spirits of choice	3 oz	90 g
Sugar	3 oz	90 g
Milk chocolate, melted, tempered	12 oz	340 g

1. Toss the almonds together with the liqueur and sugar.

2. Spread on a sheet pan. Toast in a 350°F/177°C oven, turning the mixture several times to ensure even color, until golden brown, about 10 minutes. Cool completely.

3. Combine one-third of the chocolate with one-third of the nut mixture, toss together to coat the nuts evenly, and spoon out into high little mounds on a parchment-lined sheet pan. Repeat with the remaining chocolate and nuts in two more batches. Allow the chocolate to set completely.

CHEF'S NOTES

Any variety of nuts may be used.

Any type of chocolate may be used in place of milk chocolate.

Chopped dried fruit may be used with the nuts.

MENDIANT

MAKES 50 PIECES

INGREDIENT	U.S.	METRIC
Dark chocolate, melted, tempered	8 oz	230 g
Pistachios, blanched	50	50
Dried cranberries	50	50
Dried apricots, coarsely chopped	10	10

1. Fill a parchment cone with the tempered chocolate and pipe onto a parchment-lined sheet pan in 1-in/3-cm disks.

2. When the chocolate has begun to set, place 1 pistachio, 1 cranberry, and 1 piece of apricot onto each disk.

3. Allow the chocolate to fully set before removing the disks from the parchment paper.

CHEF'S NOTES

Tempered milk or white chocolate may be substituted for the dark chocolate.

The chocolate may be piped in larger or smaller disks if desired.

Any type of nuts or dried fruit may be substituted for the pistachios, cranberries, and apricots. It is important to remember when making mendiants that the size of the nuts and fruits should correspond to the size of the chocolate disk and that the colors and flavors should complement each other.

PRALINE-FILLED CHOCOLATE CUPS

MAKES 120 CONFECTIONS

INGREDIENT	U.S.	METRIC
Dark chocolate, melted, tempered	As needed	As needed
Butter, soft	8 oz	230 g
Fondant	8 oz	230 g
Praline paste	8 oz	230 g

1. Coat the inside of 120 foil cups, ⅞ in/2 cm in diameter by ⅝ in/1.5 cm high, with tempered dark chocolate. Allow the chocolate to set completely.

2. Cream the butter, fondant, and praline paste with the paddle attachment on medium speed, scraping down the bowl periodically, until smooth and light in color, about 5 minutes.

3. Fill a pastry bag fitted with a #2 plain tip with the praline mixture and pipe into the cups, filling them 80 percent full. Allow to set until firm.

4. Fill a parchment cone with tempered dark chocolate and pipe onto the top of each filled cup in a spiral motion, creating a seal. Tap each cup to smooth the top.

5. Allow the chocolate to set.

CANDIED ORANGE PEEL

MAKES 9½ OZ/270 G

INGREDIENT	U.S.	METRIC
Orange peel, cut into quarters	8 oz	230 g
Water	As needed	As needed
Sugar	1 lb	450 g
Light corn syrup	4 oz	110 g

1. Place the orange peels in a pan of cold water to cover and bring to a boil; drain. Repeat this process three times to remove some of the bitterness from the pith, using fresh cold water each time.

2. Combine 12 oz/340 g water, the sugar, and corn syrup in a heavy-bottomed saucepan and bring to a boil, stirring to dissolve the sugar. Reduce to a very low simmer, add the peels, and poach until translucent, about 1 hour. It may be necessary to weight down the peels with a plate.

3. Store the peels in the syrup in a tightly covered container under refrigeration. Slice the peels into desired size before drying. If the sliced peels are not to be dipped in chocolate, toss them in granulated sugar before drying on wire racks.

4. To dry the peels, drain them and spread on a wire rack set over a parchment-lined sheet pan. Allow to dry and crystallize overnight at room temperature. Alternatively, place the peels on a parchment-lined sheet pan in a 280°F/138°C convection oven for 1½ hours.

CHEF'S NOTE

Lemon, lime, or grapefruit peels may be used in place of the orange peels.

This recipe is considered confit when it is left in sugar syrup and not dried as in Step 4.

VARIATION

The orange peels can be coated partially or fully in tempered dark chocolate before using.

Quartered citrus skins simmered in heavy syrup create citrus confit

TOP : *Slicing the citrus confit*

BOTTOM: *Dipping the citrus confit in tempered chocolate*

SOFT CARAMEL FILLING FOR CHOCOLATE CUPS

MAKES APPROXIMATELY 150 PIECES DEPENDING ON THE MOLDS USED

INGREDIENT	U.S.	METRIC
Sugar	1 lb 4 oz	570 g
Lemon juice	¼ tsp	1.25 mL
Heavy cream, hot	10 oz	280 g
Butter	5 oz	140 g
Spirit or liqueur (optional)	As needed	As needed

1. Rub the sugar together with the lemon juice
2. Melt and caramelize the sugar over direct heat while stirring constantly.
3. Add the hot cream slowly over low heat while stirring.
4. Stir in the butter until melted and combined
5. Mix in the spirit, if using.
6. Allow to cool to room temperature before use (see Chef's Note).

CHEF'S NOTE

When cooled, the consistency should be a very thick fluid. If the too much moisture is removed from the cream while cooking, the caramel will be stiff. Add syrup, cream, or spirit to restore the proper consistency.

TOP TO BOTTOM: *Mint Fondants (page 949), Soft Caramels (page 942), Trifections (page 959), PB&Js (page 962), Toasted Hazelnut Marzipan (page 965), Soft Caramel Filling for Chocolate Cups (this page), Mint Fondant*

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SOFT CARAMELS

MAKES 182 PIECES

INGREDIENT	U.S.	METRIC
Sugar	1 lb 8 oz	680 g
Evaporated milk	1 lb 8 oz	680 g
Heavy cream	10 oz	280 g
Vanilla bean, split and scraped	1	1
Glucose syrup	1 lb 4 oz	570 g
Butter	1½ oz	40 g
Salt	1 tsp	6 g
Dark chocolate, melted, tempered, for coating and dipping	As needed	As needed

1. On a piece of lightly oiled parchment paper, set up a frame of caramel rulers 12 by 12 × ½-in/30 by 30 × 1 cm.

2. Combine the sugar, evaporated milk, cream, and vanilla bean seeds and pod in a heavy-bottomed saucepan and bring to a boil, stirring constantly.

3. Add the glucose syrup while continuing to stir. Continue cooking, stirring, to 230°F/110°C. Stir in the butter. Cook while stirring until the mixture reaches 230°F/115°F. Add the salt and remove from the heat.

4. Remove the vanilla bean pod and immediately pour the mixture into the prepared frame. Allow to cool to room temperature.

5. Brush the caramel with a thin layer of tempered dark chocolate and allow the chocolate to set completely.

6. Using caramel cutters, cut the slab into ⅞-in/2-cm squares. Dip in tempered dark chocolate and allow to set.

RASPBERRY CARAMELS

MAKES 126 PIECES

INGREDIENT	U.S.	METRIC
Sugar	14 oz	400 g
Evaporated milk	9 oz	260 g
Seedless raspberry purée	6 oz	170 g
Lemon zest, grated	1 tbsp	9 g
Glucose syrup	4 oz	110 g
Butter	¾ oz	20 g
Dark chocolate, melted, tempered, for dipping	As needed	As needed

1. On a silicone baking mat, set up a frame of caramel rulers 6½ by 12 in/17 by 30 cm.

2. Combine the sugar, evaporated milk, raspberry purée, and lemon zest in a heavy-bottomed saucepan and bring to a boil, stirring constantly. Add the glucose syrup while continuing to stir. Cook, stirring, to 230°F/110°C.

3. Add the butter and continue cooking to 245°F/118°C, or firm ball stage. Immediately pour the caramel into the prepared frame and cool.

4. Brush the cooled caramel with a thin layer of tempered dark chocolate and allow the chocolate to set completely.

5. Using caramel cutters, cut into ⅞-in/2-cm squares. Dip in tempered dark chocolate and allow to set.

TOFFEE

MAKES 400 PIECES

INGREDIENT	U.S.	METRIC
Sugar	1 lb 6 oz	620 g
Heavy cream	13 oz	370 g
Glucose syrup	4 oz	110 g
Salt	1 tsp	6 g
Vanilla bean, scraped, seeds only	¾	¾

1. Combine all the ingredients in a heavy-bottomed saucepan and cook over medium heat, stirring constantly and occasionally washing down the sides of the pan with a wet pastry brush, until the mixture reaches 293°F/145°C.

2. Pour the toffee onto a silicone baking mat 12 by 16 in/30 by 41 cm; it should be about ⅛ in/0.3 cm thick. Cool slightly until the toffee begins to set, but not so much that it is brittle.

3. Using caramel cutters, score the toffee into ⅞-in/2-cm squares. Cool completely.

4. Break the toffee apart at the scored marks. If the toffee is to be stored, it should be immediately wrapped tightly in plastic wrap or placed in an airtight container.

PEANUT BRITTLE

MAKES 6 LB/2.72 KG

INGREDIENT	U.S.	METRIC
Sugar	1 lb 12 oz	790 g
Water	12 oz	340 g
Glucose syrup	1 lb 4 oz	570 g
Peanuts, raw	2 lb	910 g
Salt	2 tsp	12 g
Butter	2 oz	60 g
Vanilla extract	1 tbsp	15 mL
Baking soda	2 tsp	10 g

1. Combine the sugar and water in a saucepan and bring to a boil while stirring. Add the glucose syrup and bring to a boil over high heat, stirring constantly.

2. When the syrup comes to a boil, stop stirring and skim the surface to remove any impurities. Continue to cook without stirring to 239°F/115°C, occasionally washing down the sides of the pan using a wet pastry brush.

3. Add the peanuts and continue cooking, stirring gently with a wooden spoon, until the mixture reaches 311°F/155°C.

4. Remove from the heat and stir in the salt, butter, and vanilla until incorporated. Stir in the baking soda. Pour the mixture onto a lightly oiled marble surface. Cool slightly, to a plastic texture.

5. Wearing latex gloves to protect your hands, pull the brittle, working from the edges and breaking off pieces as they harden. (This must be done quickly, before the brittle hardens, so it's best to have two people work on it.) The pieces will be different shapes and sizes.

PECAN BUTTER CRUNCH

MAKES 4 LB 11 OZ/2.13 KG

INGREDIENT	U.S.	METRIC
Butter	1 lb	450 g
Sugar	1 lb	450 g
Water	3 oz	90 g
Salt	¾ oz	20 g
Pecans, lightly toasted and coarsely chopped	12 oz	340 g
Dark chocolate, melted and tempered	14 oz	400 g

1. Melt the butter in a heavy-bottomed saucepan. Add the sugar, water, and 1 tsp/6 g of the salt. Bring to a rolling boil over high heat. Cook, stirring constantly with a wooden spoon, until the mixture reaches 295°F/146°C and is light golden brown.

2. Pour the mixture onto a full-size silicone baking mat and spread evenly over the mat with an offset metal spatula; the mixture should be about ⅛ in/0.3 cm thick. Cool completely.

3. Toss the pecans with the remaining salt.

4. Spread the cooled toffee with a thin layer of the tempered chocolate. While the chocolate is still fluid, scatter half of the pecans over the top. Allow the chocolate to set completely.

5. Turn the slab of toffee over and brush with a thin layer of tempered chocolate. While the chocolate is still fluid, scatter the remaining pecans over the top. Allow to set completely, then break into pieces.

LEAF CROQUANT

MAKES 70 PIECES

INGREDIENT	U.S.	METRIC
Almonds, blanched and lightly toasted	1 lb	450 g
Confectioners’ sugar	2 oz	60 g
Glucose syrup	1 oz	30 g
Caramel		
Lemon juice	¼ tsp	1.25 mL
Granulated sugar	1 lb	450 g
Glucose syrup	2 oz	60 g
Dark chocolate, melted, tempered, for dipping	As needed	As needed

1. Grind the almonds and confectioners’ sugar to a smooth, soft paste in a food processor. Remove the nuts from the food processor, add the glucose, and work into a malleable dough.

2. On parchment paper, for the nut mixture into a 10-in/25-cm square.

3. Rub the lemon juice into the granulated sugar. Caramelize using the dry method (see page 923). Remove the caramel from the heat and pour in the glucose.

4. Immediately pour the caramel into a 12 by 22-in/30 by 55-cm rectangle on a sheet pan lined with a silicone baking mat, spreading it evenly over the mat. Cool just enough to be able to handle: it should still be very warm; if it cools too much, it will crack.

5. Place the almond paste square over two-thirds of the caramel. Warm the slab if necessary to make it malleable. Make a three-fold (see “Three-Fold” in Chapter 9, page 228), folding the third with no almond paste over first.

6. Warm the slab if necessary and roll it into a 20 by 8-in/50 by 20-cm rectangle. Make another three-fold, and roll out the slab out again. Repeat for a total of five three-folds, ending with a ½-in/1-cm-thick slab.

7. Cut the croquant into ½-in/1-cm squares. If it has cooled too much to cut, rewarm it.

8. Cool the pieces completely. Dip them in tempered dark chocolate and allow to set.

HARD CANDIES

MAKES 120 PIECES

INGREDIENT	U.S.	METRIC
Sugar	1 lb 11 oz	770 g
Water	10 oz	280 g
Glucose syrup	5½ oz	160 g
Cream of tartar	¼ tsp	1 g
Coloring (optional)	As desired	As desired
Flavoring	As desired	As desired

1. Lightly oil an 8 by 12 by ½-in/20 by 30 by 1-cm frame and place on an oiled marble.

2. Combine the sugar and water in a heavy-bottomed saucepan and bring to a boil, stirring constantly. Stir in the glucose syrup and cream of tartar and, if using, add powdered or liquid coloring as desired. Return the syrup to a boil.

3. Continue to cook without stirring, occasionally washing down the sides of the pan using a wet pastry brush, until the mixture reaches 293°F/145°C.

4. Immediately pour into the prepared frame. Cool for 3 minutes, then add the coloring, if using, and the desired flavoring, and fold it into the sugar.

5. While it is still hot and pliable, pull out and twist the sugar until satiny in appearance (twisting multiple colors is also possible). Snip into small candies with sharp scissors. Cool.

6. Store in an airtight container.

CHEF'S NOTE

Add the flavoring according to the manufacturer's instructions.

MINT FONDANT

MAKES 100 PIECES

INGREDIENT	U.S.	METRIC
Mint leaves	35	35
Fondant	1 lb 13 oz	820 g
Brandy	As needed	As needed
Peppermint oil	1 drop	1 drop
Dark chocolate, melted, tempered, for dipping	As needed	As needed

1. Grind the mint leaves with 8 oz/230 g of the fondant in a food processor until smooth.

2. Transfer the mint mixture to a bowl, stir in the remaining 1 lb 5 oz/600 g fondant, and heat over a water bath until the mixture reaches 175°F/79°C. Adjust the consistency with brandy; the fondant should be thin enough to be deposited with the fondant funnel but should not be runny. Blend in the peppermint oil.

3. Dispense with a fondant funnel into molds on a parchment-lined sheet tray. The finished fondant should be ¾ in/2 cm in diameter and ¼ in/0.6 cm thick. Allow to set until firm, about 10 minutes.

4. Dip the fondants in dark chocolate, transfer to parchment-lined sheet pans, and, when the chocolate has begun to set, use a three-pronged dipping fork to make three lines across the surface of each confection.

FUDGE

MAKES 4 LB 4 OZ/1.93 KG

INGREDIENT	U.S.	METRIC
Milk	8 oz	230 g
Heavy cream	12 oz	340 g
Milk	8 oz	230 g
Sugar	2 lb	910 g
Light corn syrup	6 oz	170 g
Butter	1 oz	30 g
Salt	½ tsp	3 g
Unsweetened chocolate, finely chopped	8 oz	230 g
Vanilla extract	1 tbsp	15 mL
Walnut halves	5 oz	140 g

1. Line the bottom and sides of a half sheet pan with aluminum foil.

2. Combine the cream and milk. Pour 8 oz/230 g of the mixture into a heavy-bottomed saucepan, add the sugar and corn syrup, and bring to a boil, stirring constantly to dissolve. Continue to cook and stir until the mixture reaches 230°F/110°C.

3. Add the butter and salt and stir to blend. Slowly add the remaining milk-cream mixture and continue to cook to 236°F/113°C. Add the chocolate and vanilla. Stir twice and pour onto a clean marble surface. Do not stir again. Allow to cool to 120°F/49°C.

4. Agitate the mixture by working it with a metal spatula on the marble until it begins to thicken. Quickly add the nuts before the fudge becomes too thick, and pour onto the prepared sheet pan. Allow to set completely before cutting into 1-in/3-cm squares.

VARIATIONS

Substitute any of the following for the unsweetened chocolate: white or dark chocolate, peanut butter, or pistachio or praline paste.

You can also omit the walnuts and add 1 oz/28 g of garnish for every 8 oz/227 g fudge. For example, for white chocolate and dried cherry fudge, substitute white chocolate for the unsweetened chocolate and add 8½ oz/241 g dried cherries.

MAPLE FUDGE

MAKES 132 PIECES

INGREDIENT	U.S.	METRIC
Maple syrup	3 lb 1 oz	1.39 kg
Heavy cream	12 oz	340 g
Invert sugar	6 oz	170 g
Glucose syrup	5 oz	140 g
Fondant	6 oz	170 g
Vanilla extract	1 oz	30 g
Walnuts, toasted, chopped	9 oz	260 g

1. Combine the maple syrup, cream, sugar, and glucose syrup in a heavy-bottomed saucepan. Cook to 245°F/118°C, stirring constantly.

2. Pour onto a marble surface and place the fondant, vanilla extract, and toasted walnuts on top of the cooked syrup.

3. Let the mixture cool to 122°F/50°C. Agitate using a scraper until the mixture turns creamy and opaque, about 8 minutes.

4. Place the fudge into a 12 by 12 by ½-in/30 by 30 by 1-cm frame set on lightly oiled parchment paper.

5. Place a sheet of oiled parchment paper on top of the fudge and use a rolling pin to flatten the top. Allow the fudge to crystallize before removing the parchment.

6. Cut the fudge into 1-in/3-cm squares.

FRAPPE CHOCOLATE FUDGE

MAKES 132 PIECES

INGREDIENT	U.S.	METRIC
FRAPPE		
Dry albumen	3½ oz	100 g
Water, cold	3½ oz	100 g
Invert sugar	1 lb 2 oz	510 g
Glucose syrup	1 lb 2 oz	510 g
FUDGE		
Semisweet chocolate, finely chopped	4 oz	110 g
Unsweetened chocolate, chopped	7 oz	200 g
Butter, cut into ¼-in/0.6-cm slices	1 oz	30 g
Granulated sugar	1 lb 7 oz	650 g
Invert sugar	1 oz	30 g
Glucose syrup	1 oz	30 g
Milk	7 oz	200 g
Salt	1 tsp	6 g
Frappe (above)	4 oz	110 g
Fondant	2 oz	60 g
Walnuts, toasted and chopped	9 oz	250 g
Dried cherries, chopped	5 oz	140 g

1. To prepare the frappe, whisk the albumen into the water. Allow the albumen to rehydrate, about 30 minutes.

2. Cook the invert sugar and glucose syrup to 230°F/110°C, stirring constantly.

3. Using a 5-qt mixer, begin whipping the albumen mixture with the whip attachment on high speed.

4. Meanwhile, continue cooking the syrup until the temperature reaches 240°F/116°C. Stream the hot syrup into the albumen.

5. Continue whipping until the mixture has cooled to about 120°F/49°C. Store tightly covered at room temperature.

6. To prepare the fudge, place a 12 by 12 by ½-in/30 by 30 by 1-cm frame over lightly oiled parchment paper. Melt the chocolate, chocolate liquor, and butter over a water bath and reserve.

7. Combine the granulated sugar, invert sugar, glucose syrup, and milk. Cook to 234°F/112°C, stirring constantly. Remove from the heat and stir in the salt.

TOP RIGHT: *Cooked syrup is poured onto the marble and frappe and chocolate are added.*

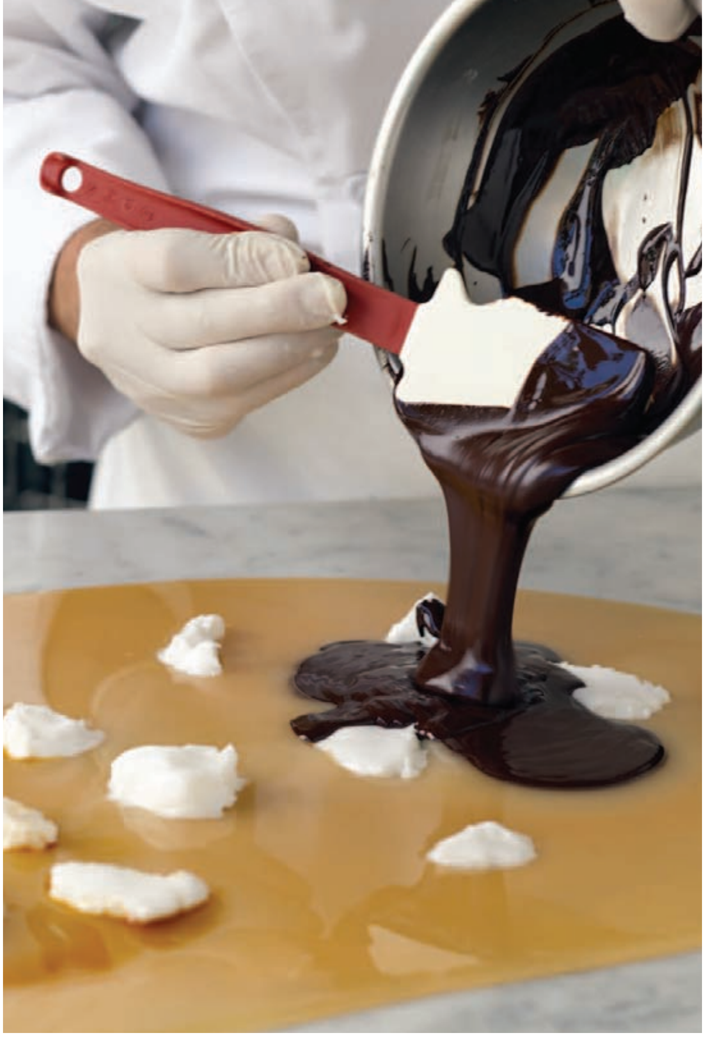
BOTTOM LEFT: *The mixture is agitated until blended and smooth.*

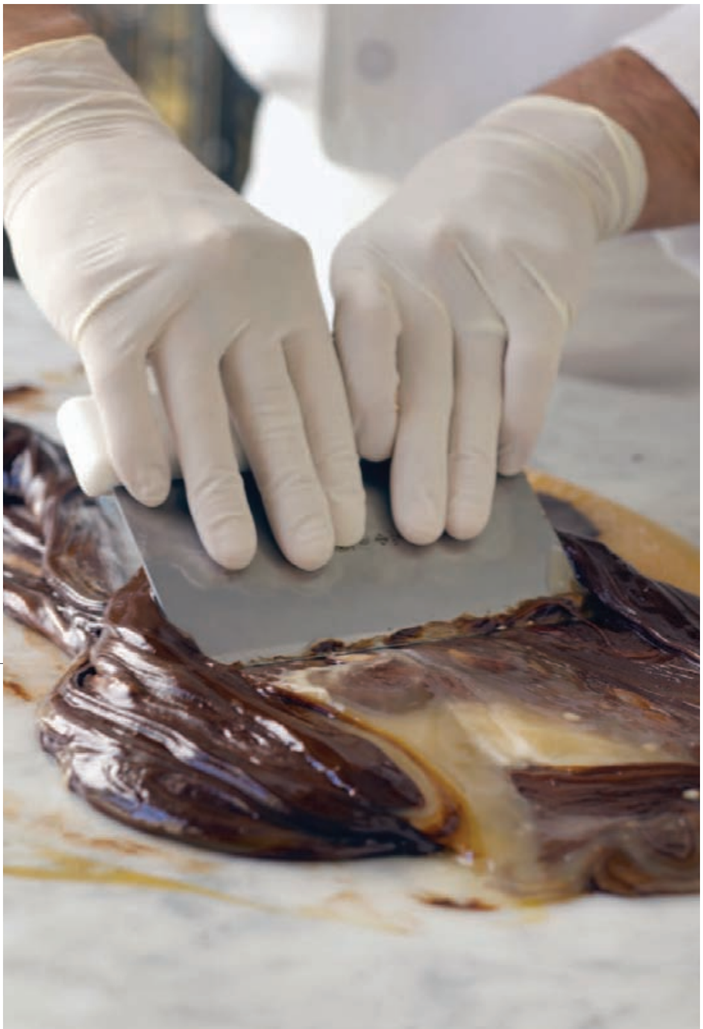
BOTTOM RIGHT: *Varieties of finished fudge. From back to front: Peanut Butter Fudge (page 950), Fudge (page 950), Maple Fudge (page 951), Frappe Chocolate Fudge (this page)*

8. Pour the cooked sugar mixture onto a marble surface and allow to cool, undisturbed, to 194°F/90°C. Add the frappe to the mixture, stirring until it is incorporated.

9. Add the melted chocolate mixture and stir until it is incorporated. Add the fondant and stir until the mixture cools to 160°F/71°C. Fold in the chopped nuts.

10. Pour immediately into the prepared frame and allow to set overnight. Cut into 1-in/3-cm squares. Wrap to prevent drying.





NOUGAT TORRONE

MAKES TWO 8½ BY 11-IN/21 BY 28-CM SHEETS, APPROXIMATELY ½ IN/1 CM THICK

INGREDIENT	U.S.	METRIC
Egg whites	4 oz	100 g
Wafer paper, 8½ by 11 in/21 by 23 cm	4	4
INCLUSIONS		
Almonds, whole blanched, toasted	2 lb 8 oz	1.13 kg
Sugar	1 lb 12 oz	800 g
Dried egg whites	½ oz	14 g
Egg whites	4 oz	110 g
Honey	1 lb	450 g
Water	7 oz	200 g
Glucose syrup	8 oz	230 g
Vanilla bean, split and scraped	1	1
Cocoa butter, melted	1½ oz	40 g

1. Make two 8½ by 11 in/21 by 28 cm frames using caramel bars and place them over two sheets of wafer paper.

2. Place the almonds into a large stainless-steel bowl. Place in a 250°F/121°C oven to keep warm until needed.

3. Mix the sugar and dried egg whites together. Whisk into fresh whites to hydrate. Put into mixing bowl on a 5-qt/4.8-L planetary mixer fitted with the whip attachment. Do not start mixing.

4. Bring the honey to a boil; keep warm.

5. Cook the 2 oz/60 g sugar, water, glucose syrup, and vanilla bean pod and seeds to 302°F/150°C. Add the honey to the remaining 1 lb 10 oz/740 g sugar and begin whipping the egg white mixture on high speed.

6. When the sugars reach 311°F/155°C, remove the vanilla bean pod, and pour the hot syrup into the whipping whites as rapidly as possible without collapsing the whites.

7. Use a propane torch moving constantly over the outside of the bowl to keep the nougat hot and to remove more water. Continue whipping while applying the torch for 2 minutes longer.

8. Add the cocoa butter. The nougat will separate momentarily but will return to a smooth state within a minute.

9. Remove from the mixer. Scrape the nougat into the bowl with the inclusions. Using a wooden spoon or a gloved hand, mix the inclusions into the nougat.

10. Divide the nougat onto two 8½ by 11-in/21 by 23-cm wafer papers. Spread as evenly as possible using an offset palette knife.

11. Place a second wafer paper on top of each of the sheets of the nougat, roll lightly with a clean rolling pin to flatten the nougat and adhere the wafer paper to it.

12. Allow to cool completely, or store overnight in an airtight container.

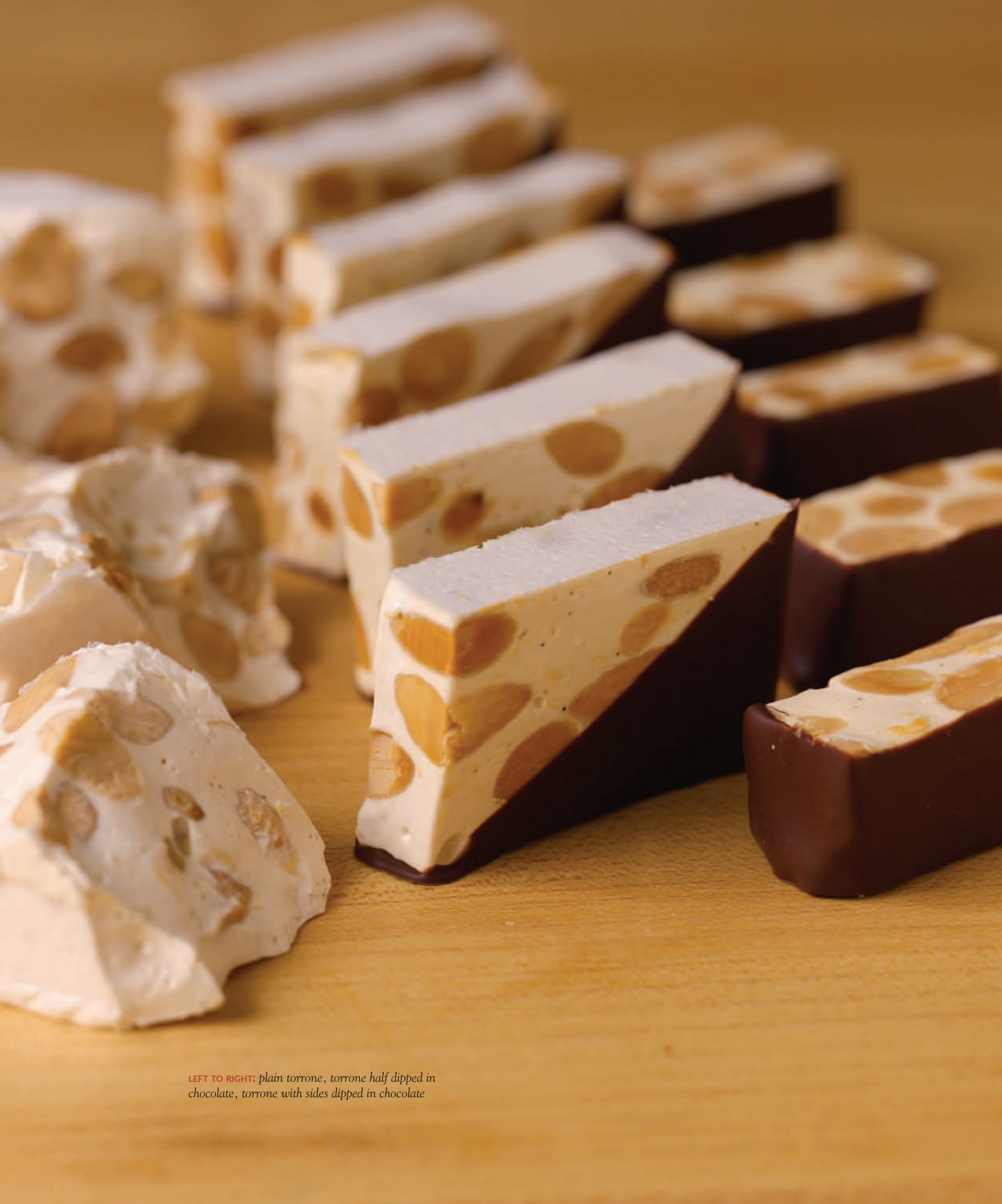
13. Break into the desired size irregular pieces. Protect from humidity to maintain hard texture.

TOP LEFT: *Pouring the hot sugar syrup into the whipping egg whites.*

TOP RIGHT: *Folding in the toasted almonds.*

BELOW LEFT: *Frames are used to spread the finished nougat into an even layer, and wafer paper is applied to the surface.*

BELOW RIGHT: *Finished torrone.*



LEFT TO RIGHT: *plain torrone, torrone half dipped in chocolate, torrone with sides dipped in chocolate*

NUSS BONBON

MAKES 85 PIECES

INGREDIENT	U.S.	METRIC
Almond paste	10 oz	280 g
Fondant	8 oz	230 g
Sugar	5 oz	140 g
Heavy cream, hot	8 oz	230 g
Walnuts, finely chopped	10 oz	280 g
Dark chocolate, melted, tempered, for coating and dipping	As needed	As needed
Walnut halves	85	85
Dark chocolate, melted, thinned with cocoa butter, and tempered	As needed	As needed

1. Grind together the almond paste and fondant in a food processor until smooth.

2. Place the sugar in a heavy-bottomed saucepan and cook over medium heat, stirring constantly, to a rich golden brown, occasionally washing down the sides of the pan using a wet pastry brush.

3. Add the hot cream to the caramel, stirring until blended. Add the almond paste mixture and the chopped walnuts. Cook, stirring constantly, until the mixture reaches 248°F/120°C; it will pull away from the sides of the saucepan.

4. Immediately pour onto a lightly oiled sheet of parchment paper. Place another lightly oiled parchment sheet on top and roll into a slab ½ in/1 cm thick. Allow the slab to cool completely.

5. Brush the slab with a thin layer of tempered dark chocolate and allow the chocolate to set completely.

6. Cut into pieces using a 1-in/3-cm oval praline cutter. Top each bonbon with a walnut half and dip in tempered dark chocolate thinned with cocoa butter.

GIANDUJA

MAKES 1 LB 8 OZ/680 G

INGREDIENT	U.S.	METRIC
Hazelnuts, blanched and toasted	8 oz	230 g
Confectioners' sugar	8 oz	230 g
Dark chocolate, coarsely chopped	8 oz	230 g

1. Process the nuts and 2 oz/60 g of the sugar together in a food processor to an oily paste. Add the chocolate and remaining sugar and process for 1 to 2 more minutes, until as smooth as possible.

2. Table the gianduja until it begins to thicken.

3. Cool completely. Wrap tightly in plastic wrap and store in a cool, dry place.

VARIATION

MILK CHOCOLATE GIANDUJA *Substitute milk chocolate for the dark chocolate and very lightly toasted blanched almonds for the hazelnuts. Reduce the sugar to 6 oz/170 g.*

WHITE CHOCOLATE GIANDUJA *Substitute white chocolate for the dark chocolate and very lightly toasted blanched almonds for the hazelnuts. Reduce the sugar to 6 oz/170 g.*

MILK CHOCOLATE PEANUT BUTTER GIANDUJA

MAKES 12 OZ/340 G

INGREDIENT	U.S.	METRIC
Milk chocolate, coarsely chopped	4¼ oz	120 g
Creamy peanut butter	7 oz	200 g
Trimoline	1 oz	30 g

1. Melt the chocolate in a bowl over barely simmering water until smooth.

2. Warm the peanut butter separately over barely simmering water. Combine the chocolate and peanut butter and stir until well combined. Stir in the Trimoline.

3. Cool completely. Wrap tightly in plastic wrap and store in a cool, dry place.

TRIFECTIONS

MAKES 180 PIECES

INGREDIENT	U.S.	METRIC
WHITE CHOCOLATE GIANDUJA		
Blanched almonds, very lightly toasted	8 oz	230 g
Confectioners' sugar	5 oz	140 g
White chocolate, melted	8 oz	230 g
MILK CHOCOLATE GIANDUJA		
Blanched almonds, toasted	8 oz	230 g
Confectioners' sugar	5 oz	140 g
Milk chocolate, melted	8 oz	230 g
DARK CHOCOLATE GIANDUJA		
Blanched hazelnuts, toasted	8 oz	230 g
Confectioners' sugar	6 oz	170 g
Dark chocolate, melted	8 oz	230 g
Dark chocolate, melted, tempered, for coating	As needed	As needed

1. To make the white gianduja, grind the lightly roasted almonds with a small amount of the sugar until liquefied. Add the remaining sugar and the melted white chocolate. Mix just until homogeneous

2. Temper the white gianduja by tabling the entire batch vigorously on the marble until it is room temperature and well agitated.

3. Spread into a 12 by 10 by 3⁄16 in/30 by 25 by .5 cm frame lined with acetate. Smooth the gianduja level with the frame.

4. Repeat steps 1 through 3 for the milk chocolate gianduja and a second frame on top of the first. Be certain that the white gianduja has set before spreading the milk chocolate gianduja on top of it.

5. Repeat the process for the dark chocolate gianduja.

6. Allow the gianduja to crystallize. Remove from the frames by running a paring knife around the edge.

7. Invert the layered gianduja so that the white side is up. Spread a layer of tempered dark chocolate onto the white gianduja and texture with a comb before it sets.

8. Allow the chocolate to just set, Cut immediately on the guitar using the ⅝-in/1.5-cm and 1-in/3-cm cutters.

9. Separate the pieces immediately.

BRANCHLI BRANCHES

MAKES 55 PIECES

INGREDIENT	U.S.	METRIC
Gianduja (page 958), melted	8 oz	230 g
Dark chocolate, melted	5 oz	140 g
Praline paste	4 oz	110 g
Confectioners' sugar	4 z	110 g
Coconut oil, melted and cooled to 92°F/33°C	2½ oz	70 g
Nougatine couverture, tempered, for dipping	As needed	As needed

1. Combine the gianduja, chocolate, praline paste, sugar, and coconut oil in a bowl and blend thoroughly. Allow to set.

2. Table the mixture until it reaches a piping consistency.

3. Fill a pastry bag fitted with a #5 plain tip with the mixture and pipe into strips 16 in/41 cm long and ¼ in/0.6 cm thick onto parchment paper. Allow to set until firm.

4. Cut into pieces 2 in/5 cm long. Dip into tempered nougatine couverture and allow to set completely.

THREE BROTHERS

MAKES 100 PIECES

INGREDIENT	U.S.	METRIC
Gianduja (page 958)	1 lb	450 g
Hazelnut Dragées (page 935)	1 lb	450 g
Dark chocolate, melted, thinned with cocoa butter, and tempered for dipping	As needed	As needed

1. Table the gianduja until it reaches a piping consistency.

2. Fill a pastry bag fitted with a #3 straight tip with the gianduja and pipe into ¾-in/2-cm bulbs on a parchment-lined sheet pan.

3. Place 3 dragée hazelnuts together on each bulb of gianduja. Allow to set.

4. Dip in thinned tempered dark chocolate and allow the chocolate to set completely.

TREMORS

MAKES 120 PIECES

INGREDIENT	U.S.	METRIC
Dried cherries, chopped	3 oz	90 g
Sliced almonds, blanched, toasted and coarsely chopped	5 oz	140 g
Gianduja (page 958), melted	1 lb	450 g
Milk chocolate, melted, tempered	1 lb	450 g

1. Line four triangle molds with plastic wrap.

2. Combine the cherries and almonds with the gianduja, folding them in with a rubber spatula.

3. Table the mixture until it is very cool to the touch.

4. Spread the mixture into the prepared molds. Allow to set at room temperature. Refrigerate for 10 minutes to allow the mixture to release from the mold.

5. Remove the triangular strips from the molds. Brush with a thin layer of the tempered milk chocolate and allow it to set completely.

6. Enrobe one strip in tempered milk chocolate. (Enrobe and slice only one strip at a time; if the chocolate sets too hard, it will crack when cut.) Immediately remove the strip from the rack. When the chocolate is just set, place on a parchment-lined sheet pan and slice into ½-in/1-cm pieces. Repeat with the remaining strips.

PB&JS

MAKES 156 PIECES

INGREDIENT	U.S.	METRIC
JELLY		
Raspberry purée or Concord grape juice	6 oz	170 g
Apple compote	4 oz	110 g
Glucose syrup	9 oz	260 g
Sugar	13½ oz	380 g
Pectin, powdered	½ oz	14 g
Lemon juice	1 oz	30 g
PEANUT BUTTER GIANDUJA		
Peanut butter, smooth	1 lb	450 g
Milk chocolate, melted	11 oz	310 g
Dark chocolate, melted, tempered, for coating	As needed	As needed
Peanuts, toasted, chopped	As needed	As needed

1. To make the jelly, combine the puree or juice, apple compote, and 3 oz/90 g the glucose syrup in a saucepan.

2. Mix together 1½ oz/40 g of the sugar and the pectin. Whisk into the puree mixture. Bring the mixture to a boil while stirring constantly.

3. Add the remaining 12 oz/340 g sugar and return to a boil while stirring.

4. Add the remaining 6 oz/170 g glucose syrup; continue cooking over low heat, while stirring, until the mixture reaches 223°F/106°C or 75° Brix. This takes approximately 6 minutes of gentle boiling.

5. Add the lemon juice and pour into a 12 by 12 by ¼-in/30 by 30 by 0.6-cm frame on oiled parchment paper. Allow to set.

6. To make the peanut butter gianduja, combine the peanut butter and milk chocolate in a stainless-steel bowl.

7. Table on a marble surface until cooled to room temperature but still fluid.

8. Place a second set of ¼-in/0.6-cm bars on top of the ones containing the jelly. Pour the gianduja into the frame on the jelly. Allow to crystallize until set.

9. To finish the confections, precoat the gianduja side of the slab with tempered dark chocolate.

10. Cut into squares on the guitar using the ⅞-in/2-cm strings.

11. Dip each piece in tempered dark chocolate, mark diagonally using a 3-prong dipping fork, and top with a few chopped toasted peanuts.

PISTACHIO MARZIPAN

MAKES 125 PIECES

INGREDIENT	U.S.	METRIC
Almonds, blanched	7½ oz	210 g
Pistachios, blanched	7½ oz	210 g
Sugar	12 oz	340 g
Water	4 oz	110 g
Glucose syrup	4 oz	110 g
Kirsch, rum, or other spirit	As needed	As needed

1. Lightly oil a clean marble surface or silicone baking mat.

2. Combine the almonds and pistachios in a food processor and pulse just until coarsely ground. Set aside.

3. Combine the sugar, water, and glucose syrup in a heavy-bottomed saucepan and stir to ensure all the sugar is moistened. Bring to a boil over high heat, stirring to dissolve the sugar. When the syrup reaches a boil, stop stirring and skim the surface to remove any impurities. Continue to cook without stirring, occasionally washing down the sides of the pan using a wet pastry brush, to 252°F/122°C, or hard ball stage.

4. Add the ground nuts to the syrup, stir only twice, and immediately pour the mixture onto the prepared surface. Allow to cool to room temperature.

5. Grind the mixture to a paste in a food processor, adding only as much of the spirit as necessary for processing. Add a little spirit if the marzipan starts to separate.

6. If storing the marzipan, wrap tightly in plastic wrap and store in a cool, dry place.

VARIATION

TOASTED HAZELNUT MARZIPAN *Substitute an equal amount of toasted hazelnuts for the pistachios. Cook the sugar syrup in step 3 to 237°F/114°C.*

WALNUT MARZIPAN

MAKES 1 LB 9 OZ/710 G

INGREDIENT	U.S.	METRIC
Almonds, blanched	4½ oz	130 g
Walnuts	4½ oz	130 g
Sugar	1 lb	450 g
Water	5 oz	140 g
Glucose syrup	2 oz	60 g
Kirsch, rum, or other spirit	As needed	As needed

1. Lightly oil a clean marble surface or silicone baking mat.

2. Combine the almonds and walnuts in a food processor and pulse just until coarsely ground. Set aside.

3. Combine the sugar, water, and glucose syrup in a heavy-bottomed saucepan and stir to ensure all the sugar is moistened. Bring to a boil over high heat, stirring to dissolve the sugar. When the syrup reaches a boil, stop stirring and skim the surface to remove any impurities. Continue to cook without stirring, occasionally washing down the sides of the pan using a wet pastry brush, to 250°F/127°C, or hard ball stage.

4. Add the ground nuts to the syrup, stir only twice, and immediately pour the mixture onto the prepared surface. Allow to cool to room temperature.

5. Grind the mixture to a paste in a food processor, adding only as much of the spirit as necessary for processing. Add a little more spirit if the marzipan starts to separate.

6. If storing the marzipan, wrap tightly in plastic wrap and store in a cool, dry place.

CHEF'S NOTE

Alternatively, to finish, roll the marzipan out ⅜ in/0.9 cm thick. Cut into 1-in/3-cm diamonds. Dip in tempered dark chocolate. When the chocolate is almost set but still tacky, place a toasted walnut half on top of each diamond.

TOASTED HAZELNUT MARZIPAN WITH CHOCOLATE

MAKES 80 PIECES

INGREDIENT	U.S.	METRIC
Toasted Hazelnut Marzipan (page 963)	1 lb 4 oz	570 g
Dark chocolate, melted, tempered, for coating	As needed	As needed
Toasted hazelnuts	80	80
Dark chocolate, melted, thinned with cocoa butter, tempered, for dipping	As needed	As needed

1. Roll the marzipan to ½ in/1 cm thick, approximately 7 by 12 in/18 by 30 cm.

2. Precoat one side of the slab with tempered dark chocolate.

3. Use a round praliné cutter to cut the marzipan.

4. Place a toasted hazelnut on the top of each piece, point up. Secure with a dot of chocolate.

5. Dip the pieces in tempered dark chocolate that has been thinned with cocoa butter.

TREE TRUNKS

MAKES 118 PIECES

INGREDIENT	U.S.	METRIC
Gianduja (page 958), melted	1 lb	450 g
Pistachio Marzipan (page 963)	1 lb	450 g
Cocoa butter, melted	As needed	As needed
Dark chocolate, melted, tempered, for coating	As needed	As needed

1. Table the gianduja until it is firm enough to hold its shape when piped.

2. Fill a pastry bag fitted with a #5 or #6 straight tip with the gianduja and pipe cylinders 16 in/41 cm long onto a parchment-lined sheet pan. Allow to set until firm, 10 to 15 minutes.

3. Roll out the marzipan on a clean marble surface into a rectangle 16 in/41 cm long and ¼ in/0.6 cm thick. Brush with a thin layer of cocoa butter.

4. Place one cylinder of gianduja on the marzipan and roll up the marzipan to encase the gianduja, overlapping the seam slightly; cut the cylinder free from the sheet marzipan at the point where the seams overlap slightly. Smooth the seam, then roll the log until it is as smooth as possible. Repeat with the remaining cylinders and marzipan.

5. Brush the log with tempered chocolate to coat. Continue to brush until the chocolate starts to set, creating a bark-like pattern. Slice ½ in/1 cm thick on a slight bias. Do not let the chocolate set completely before cutting.

FRUIT JELLIES

MAKES 125 PIECES

INGREDIENT	U.S.	METRIC
Applesauce	11 oz	310 g
Fruit purée of choice	1 lb	450 g
Glucose syrup	3 oz	90 g
Pectin powder	1 oz	30 g
Sugar	3 lb 3½ oz, plus as needed of coating	1.46 kg, plus as needed for coating
Lemon juice	1 oz	30 g

1. Spread the applesauce in a hotel pan and place in a 200°F/93°C oven for 30 minutes to remove moisture.

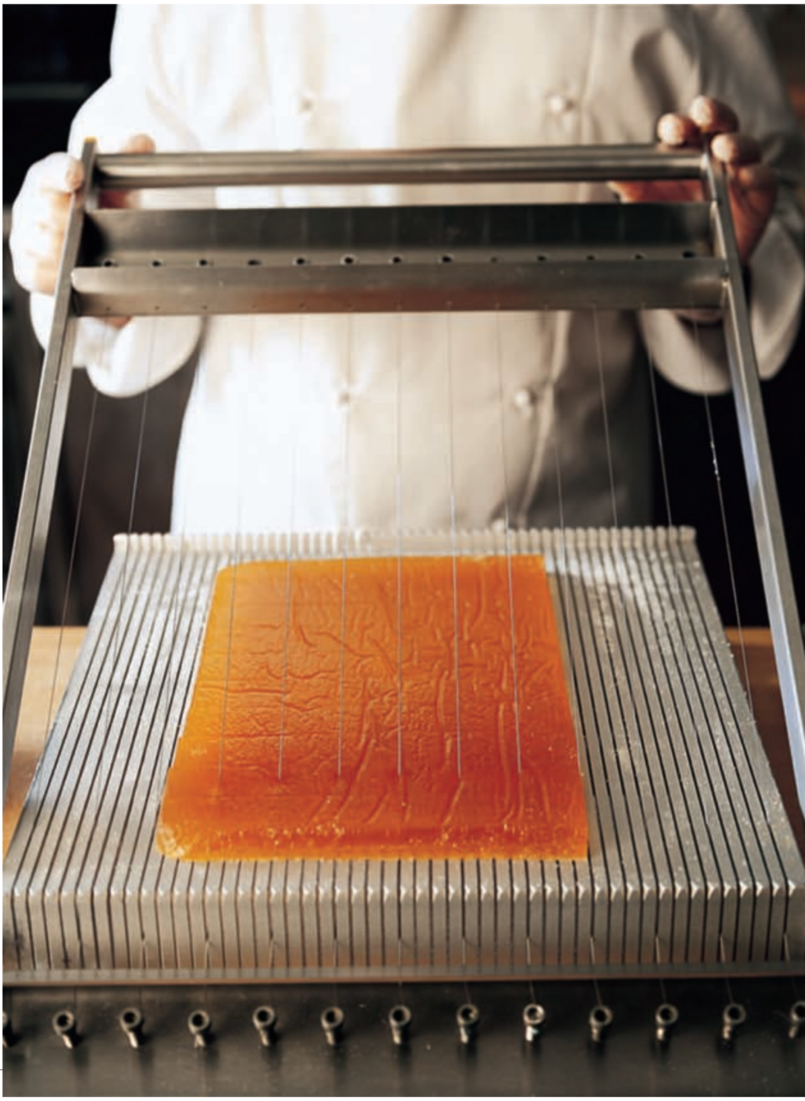
2. Line a half sheet pan with parchment paper.

3. Combine the applesauce, fruit purée, and glucose syrup in a heavy-bottomed saucepan. Blend the pectin with 3½ oz/100 g of the sugar and, off the heat, whisk into the fruit purée mixture. Bring to a rolling boil over medium heat, stirring constantly.

4. Add 1 lb 8 oz/680 g of the sugar and return to a rolling boil. Add the remaining 1 lb 8 oz/680 g sugar, return to a rolling boil, and boil for 2½ minutes.

5. Stir in the lemon juice. Pour onto the prepared half sheet pan and allow to set overnight.

6. Sprinkle the fruit slab with sugar. Using a guitar, cut into 1¼-in/3-cm squares. Toss the jellies in sugar to coat.



Jellies on a guitar to be cut into bite-size portions

MARSHMALLOWS

MAKES 1 HALF SHEET PAN

INGREDIENT	U.S.	METRIC
Gelatin, granulated	1¼ oz	40 g
Water, cold	1 lb	450 g
Granulated sugar	1 lb 8 oz	680 g
Glucose syrup	12 oz	340 g
Honey	12 oz	340 g
Vanilla extract	1 tbsp	15 mL
Confectioners' sugar, for cutting	As needed	As needed

1. Line a half sheet pan with parchment paper.

2. Bloom the gelatin in 8 oz/230 g of the cold water.

3. Combine the granulated sugar, glucose syrup, honey, and the remaining 8 oz/230 g water in a heavy-bottomed saucepan and stir to ensure all the sugar is moistened. Bring to a boil over high heat, stirring to dissolve the sugar. When the syrup reaches a boil, stop stirring and skim the surface to remove any impurities. Continue to cook without stirring, occasionally washing down the sides of the pan using a wet pastry brush, to 252°F/122°C. Remove from the heat and cool to approximately 210°F/99°C.

4. While the syrup is cooling, melt the gelatin over simmering water. Remove from the heat and stir in the vanilla.

5 Stir the gelatin mixture into the syrup. Whip the mixture with a whip attachment on high speed until medium peaks form.

6. Spread the mixture evenly in the prepared sheet pan. The easiest way to do this is to place the mixture in the pan, place a sheet of oiled parchment paper on top, and roll out the marshmallow into the pan. Allow to set completely before unmolding and cutting.

7. Remove the slab from the pan, inverting onto a work surface, and peel off the paper. Cut the marshmallows into 1-in/3-cm squares, dusting with confectioners' sugar as necessary.

VARIATION

CINNAMON MARSHMALLOWS *Add 1 tbsp/6 g ground cinnamon in step 5 after the gelatin is added.*

TOP: *The marshmallow mixture is spread into a sheet pan.*

BOTTOM: *Cutting the marshmallows requires a fair amount of confectioners' sugar.*

NOUGAT MONTÉLIMAR

MAKES 100 PIECES

INGREDIENT	U.S.	METRIC
Sugar	11½ oz	330 g
Water	3½ oz	100 g
Glucose syrup	2 oz	60 g
Honey	8 oz	230 g
Egg whites	2 oz	60 g
Vanilla bean, scraped seeds only	½	½
Almonds, blanched and toasted	7 oz	200 g
Assorted dried fruit, cut into uniform pieces	5 oz	140 g
Hazelnuts, blanched and toasted	2½ oz	70 g
Pistachios, blanched	2½ oz	70 g
Sliced almonds, blanched and toasted	2½ oz	70 g
Cocoa butter, melted	3½ oz	100 g
Dark chocolate, melted, tempered, for dipping	As needed	As needed

1. Combine 11 oz/310 g of the sugar, the water, and glucose syrup in a heavy-bottomed saucepan and stir to ensure all the sugar is moistened. Bring to a boil over high heat, stirring to dissolve the sugar. When the syrup reaches a boil, stop stirring and skim the surface to remove any impurities. Continue to cook without stirring, occasionally washing down the sides of the pan using a wet pastry brush, to 310°F/154°C.

2. Bring the honey to a boil in a separate saucepan. Add the honey to the syrup and bring it once more to 310°F/154°C.

3. Meanwhile, whip the egg whites and the remaining ½ oz/14 g sugar with a whip attachment on medium speed until soft peaks form.

4. With the mixer on medium speed, pour the hot syrup into the egg whites in a fine stream, beating until fully incorporated. Continue to whip until lighter in color, about 4 minutes; the meringue should still be warm.

5. Warm the vanilla bean seeds, whole almonds, dried fruit, hazelnuts, pistachios, and sliced almonds in a low oven. Fold into the meringue.

6. Transfer the nougat onto an oiled sheet of parchment paper and roll out to ¼ in/0.6 cm thick. Cool completely.

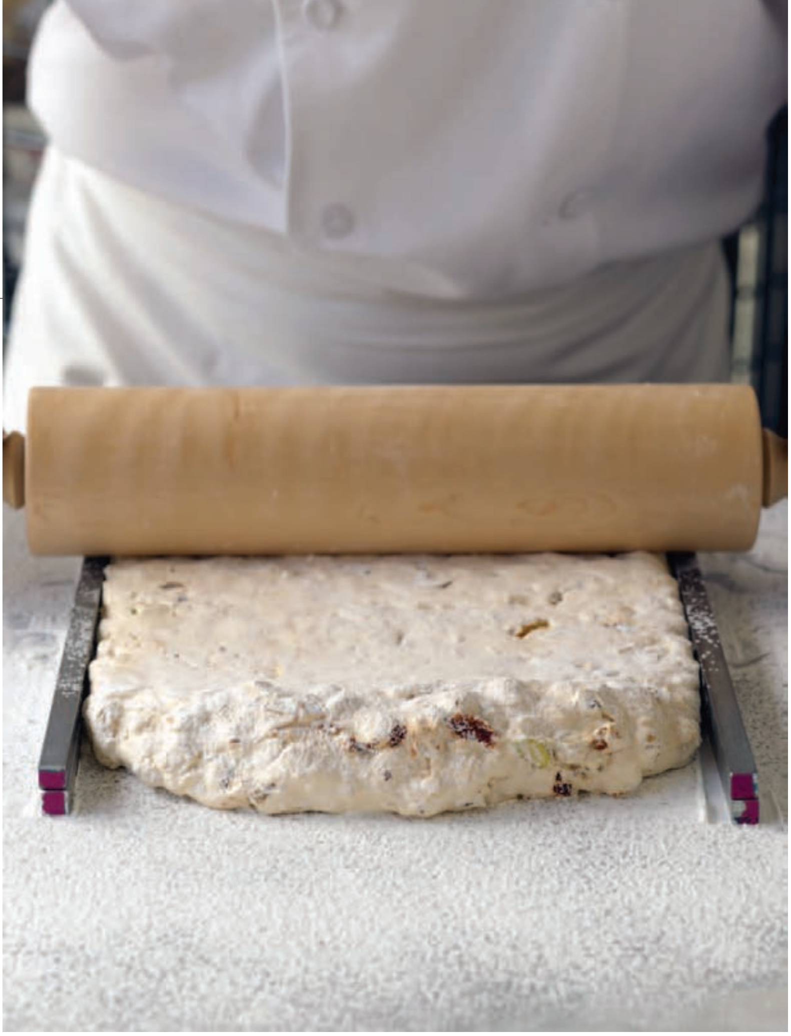
7. Cut the slab into strips ¾ in/2 cm wide. Cut the strips into 1-in/3-cm pieces. Stand the pieces of nougat on end (that is, on one short end). Brush the top edge of each one with melted cocoa butter to seal it. Dip only to the upper edge in tempered dark chocolate, so that the top surface is uncoated nougat.

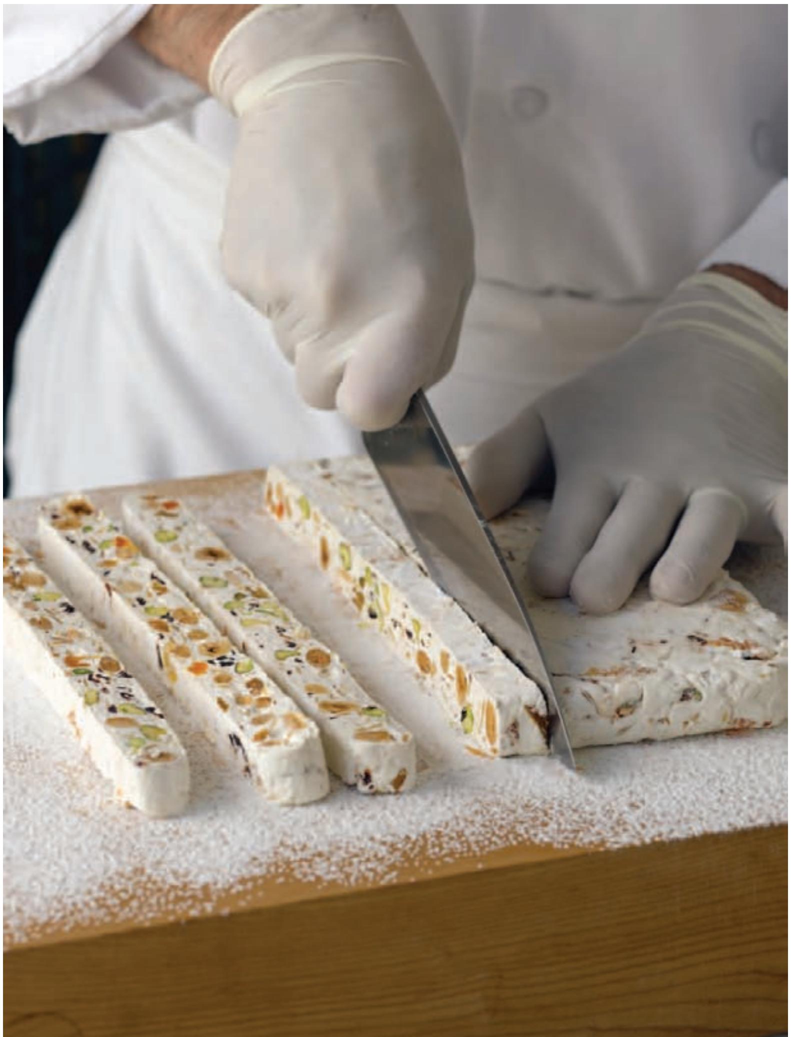
VARIATION

For a different finish, the slab of nougat can be coated on both sides with tempered dark chocolate and then cut into pieces.

TOP: *Rolling out the nougat*

BOTTOM: *Cutting the nougat*





SEAFOAM

MAKES 125 PIECES

INGREDIENT	U.S.	METRIC
Sugar	3 lb	1.36 kg
Glucose syrup	1 lb 10 oz	740 g
Water	14 oz	400 g
Honey	1½ oz	40 g
Gelatin Solution (page 1073)	¼ oz	7 g
Baking soda	1½ oz	40 g

1. Butter and lightly flour 2 disposable aluminum half hotel pans.

2. Cook the sugar, glucose syrup, and water to 280°F/138°C, stirring constantly just until the sugar has dissolved. Stop stirring once the mixture comes to a boil.

3. Add the honey and continue to cook to 302°F/150°C.

4. Remove the pan from the heat and allow to cool for 5 minutes.

5. Blend in the gelatin solution. Blend in the baking soda and allow the mixture to rise to the top of the pan.

6. Pour into the prepared pans. Cool overnight.

7. Remove the slab from the pans, inverting onto a work surface, and peel off the paper. Cut into 1-in/3-cm pieces.

CHEF'S NOTE

This confection may be dipped in tempered dark chocolate after cutting.

SOFT CHOCOLATE NOUGAT

MAKES 100 PIECES

INGREDIENT	U.S.	METRIC
Glucose syrup	1 lb 9 oz	710 g
Granulated sugar	1 lb 6 oz	620 g
Water	6 oz	170 g
Egg whites	2 oz	60 g
Vanilla extract	1 tbsp	15 mL
Nonfat dry milk	4½ oz	130 g
Confectioners' sugar	1½ oz	40 g
Dark chocolate, melted	4 oz	110 g
Cocoa butter, melted	1½ oz	40 g
Dark chocolate, melted, tempered, for brushing and dipping	As needed	As needed

1. Combine 1 lb 7 oz/650 g of the glucose syrup, the granulated sugar, and water, in a heavy-bottomed saucepan and stir to ensure all the sugar is moistened. Bring to a boil over high heat, stirring to dissolve the sugar. When the syrup reaches a boil, stop stirring and skim the surface to remove any impurities. Continue to cook without stirring, occasionally washing down the sides of the pan using a wet pastry brush, to 252°F/122°C.

2. When the mixture reaches 230°F/110°C, in a mixer fitted with the whip attachment, begin to whip the egg whites and the remaining 2 oz/60 g glucose syrup on medium speed until the whites form medium peaks. Add the vanilla extract.

3. When the syrup reaches 252°F/122°C, pour it into the egg whites in a fine stream, whipping until fully incorporated. Let cool slightly.

4. Sift together the milk powder and confectioners' sugar. Slowly fold the mixture into the meringue until fully incorporated. Cool until just warm to the touch.

5. Blend together the melted dark chocolate and cocoa butter. Add to the meringue and fold to combine.

6. Pour the mixture onto a sheet of oiled parchment paper. Place another sheet of oiled parchment paper on top and roll the mixture to ⅜ in/0.9 cm thick. Allow to cool completely.

7. Brush the nougat with a thin layer of tempered dark chocolate and allow the chocolate to set completely.

8. Cut the nougat into 1-in/3-cm squares with a hot knife, wiping the knife clean after each cut. Dip in tempered dark chocolate and let set completely.

CHEF'S NOTE

The texture of this nougat improves as it crystallizes after dipping.

Finished varieties of nougats **FROM TOP TO BOTTOM:** *Nougat Montélimar (page 970), Soft Chocolate Nougat (page 973), Nougat Montélimar with dried cherries, dried apricots, almonds, pistachios, and hazelnuts*

MOLTEN CHOCOLATE TRUFFLE

MAKES 30 TRUFFLES

INGREDIENT	U.S.	METRIC
Dark chocolate, 61%, finely chopped	15 oz	430 g
Heavy cream	6 oz	170 g
Glucose syrup	2 oz	60 g
Crème de menthe	1 oz	30 g
Butter, 70°F/21°FC	¾ oz	20 g
All-purpose flour	As needed	As needed
Eggs, whisked thoroughly	As needed	As needed
Sliced almonds, finely chopped	6 oz	170 g
Panko bread crumbs	6 oz	170 g
Canola oil, for frying	As needed	As needed

1. Place chocolate in a medium bowl.
2. Bring the cream and glucose to a boil in a medium nonreactive saucepot. Pour the mixture over the chocolate and cover with plastic wrap for 1 minute.
3. Remove the plastic wrap and stir together until homogeneous.
4. Stir in the crème de menthe and butter until homogenous.
5. Pour into a hotel pan and cover with plastic wrap. Let sit for 30 minutes.
6. Table the ganache using a bench scraper and an offset spatula, until the ganache can hold a stiff peak when lightly cut into with the spatula.
7. Place into a piping bag fitted with a #6 tip and pipe peaks of ganache about the size of a quarter and about ½ in/1 cm tall onto parchment paper Let sit until stiff enough to shape, about 30 minutes.
8. Once set, roll by hand into a ball.
9. Place all-purpose flour in a small bowl. Place eggs in another small bowl. Place the almonds and panko bread crumbs in a small bowl and stir to combine.
10. Dip a truffle ball in the flour to lightly coat, then in the eggs to lightly coat. Dip the truffle ball into the panko-almond mixture, squeezing tightly to get a firm, light coating on the truffle. Place back into the egg mixture and then into the panko-almond mixture, squeezing tightly again.
11. Place on a parchment-lined sheet pan. Repeat this process for all of the truffles.
12. Cover with plastic wrap and keep frozen until ready to fry.
13. Fry in a large nonreactive saucepot in oil at 375°F/191°C until golden brown. Drain and serve immediately.

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DÉCOR

Décor is the finishing touch given to any pastry or cake. The pastry chef employs a variety of techniques and materials to craft a look that not only displays creativity and skill but also sets his or her pastries, cakes, and other desserts apart.

TOOLS FOR DÉCOR

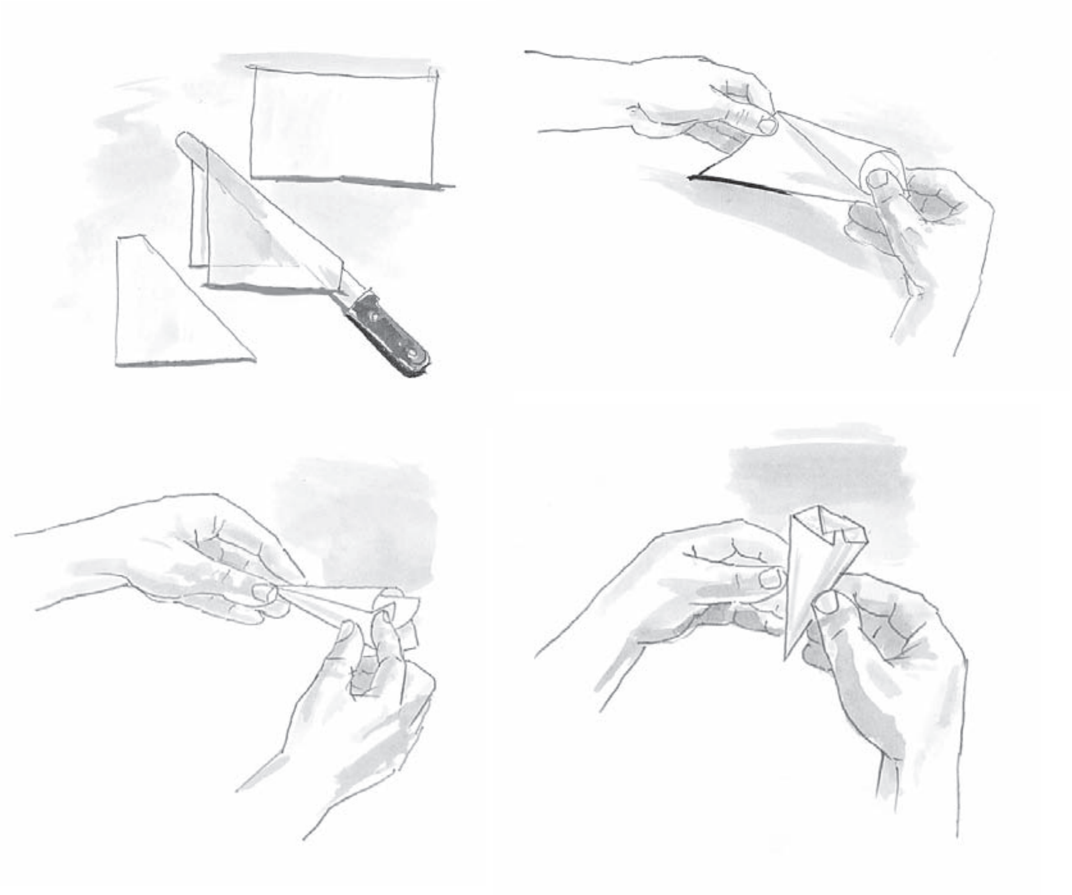
USING A PASTRY BAG AND COUPLER

Buttercream or icing décor work requires many different and specialized pastry tips. When working with many different tips or colors of buttercream or icing, it is most efficient to use a coupler with the pastry bag. A coupler is a two-piece attachment that allows piping tips to be easily interchanged without having to empty the bag.

MAKING A PARCHMENT PIPING CONE

Preparing and using a parchment piping cone is an important part of décor work. To make a parchment cone, it is easiest to use a precut sheet of parchment paper (16 by 24 in/41 by 61 cm). Otherwise, cut a sheet this size from a roll of parchment paper. Place the parchment sheet on a flat surface with the length running parallel to the edge of the work surface. Take the lower left-hand corner and bring it up so that the point of the corner is adjacent to and level with the upper right-hand corner; it should look like two peaks of identical height. Firmly crease the fold. Insert a long, sharp knife (preferably not a serrated slicer) into the folded paper with the edge of the blade toward the creased edge and carefully cut the paper in half at the crease, using a single smooth stroke. The cut edge of each sheet will form the point of each piping cone, so it must be sharp and exact. A clean cut, not possible when tearing the paper or cutting it with scissors, enables piped icings or glazes to fall in a clean, straight line. The cone will also last longer because a clean edge will not absorb moisture as quickly as a ragged one would.

A small piping cone permits closer and tighter control, necessary for the fine work of piping letters, borders, and individual piped designs. Cut the parchment paper into quarters and use the four rectangles (8 by 12 in/20 by 30 cm) to make smaller cones as desired.



TOP LEFT: *Folding the parchment paper on the diagonal and cutting with a knife*

TOP RIGHT: *Making a pivot point along the longest edge opposite the 90-degree angle*

BELOW LEFT: *Rolling into a funnel shape, making a fine point, and folding over the paper to fix the cone in place*

BELOW RIGHT: *Sealing the filled cone by crimping and folding over the top*

TO COVER A CAKE IN FONDANT

THE FOLLOWING INSTRUCTIONS REFER to working with fondant; when working with modeling chocolate, substitute cocoa powder (for dark modeling chocolate) or confectioners' sugar (for white modeling chocolate) wherever cornstarch is called for.

1. Measure the cake so you are sure to roll the fondant to the size you need without having to lift it multiple times to check the size, risking tearing or other damage to the fondant. To correctly measure a cake for a rolled covering, you must account for the diameter or width of the cake as well as twice the height to account for the sides. Then tack on an extra one or two inches to allow for some extra drape to be trimmed away for a neat appearance and fit.

2. Lightly dust the work surface with cornstarch. Roll the quantity of fondant needed for the size of the cake into a circle for a round cake, or a rectangle or square as per the dimensions of your cake. The rolled fondant should be ⅛ in/0.3 cm thick. Frequently turn the fondant and dust additional cornstarch on top and underneath to prevent it from sticking to the work surface or to the rolling pin.

3. Lightly dust the surface of the fondant with cornstarch and starting at one end, roll it up with the rolling pin. Lift the rolling pin by its handles and carefully unroll the piece of fondant over the cake, leaving equal amounts of fondant on all sides of the cake.

4. Using a cake smoother, begin smoothing the top of the cake first, gently pushing any air bubbles out the sides of the cake.

5. Once the top is smooth, begin pressing the fondant against the sides of the cake, starting at the top of the cake and working down. As you are working down the side of the cake, continue to open out the fondant when it pleats until it is smoothly adhered to the sides of the cake. Make sure to use only the palm of your hands as you smooth the sides, because fingers and fingernails will mark the soft fondant.

6. Once the fondant has adhered to the sides of the cake, lightly dust the cake smoothers with cornstarch. With one in each hand, smooth the sides and top of the cake, applying a fair amount of pressure. You do not have to be too gentle because the buttercream underneath the fondant is well chilled. This process should remove any marks or lines in the fondant. If at any point the cake smoothers begin to stick to the fondant, apply more cornstarch to the smoothers or sprinkle cornstarch directly on the cake itself.

7. Using a pizza wheel or sharp paring knife, trim the excess fondant, leaving about half an inch of fondant around the base of the cake. Place the fondant trim in an airtight bag so that it can be reused.

8. Use a paring knife to trim the fondant flush with the base of the cake. Smooth the base of the cake with the cake smoothers.

9. The final step is to remove any air bubbles that may form in the fondant. If you find an air pocket, simply puncture it with a thin pin or needle and then smooth the area flat with either the palm of your hand or a cake smoother. Don't be alarmed if there are several air bubbles on your cake; this can be quite common, especially when decorating in the warm summer months. It is also possible for air pockets to form after you've finished covering the cake, so check on the condition of your cake periodically.

CAKE-COVERING TROUBLESHOOTING

A few problems may arise when covering a cake with fondant or modeling chocolate, but they can all be fixed.

••• If fondant becomes too dry (usually because too much cornstarch was used while rolling), it may appear cracked. Gently rub some vegetable shortening into the cracked area to smooth it out.

••• If modeling chocolate is handled too much, it will take on an oily appearance. If this occurs, knead in a little cocoa powder (for dark modeling chocolate) or confectioners' sugar (for white modeling chocolate).

- If fondant is rolled too thin, it may split in weak areas as you are smoothing it. To fix this, roll out a piece of fondant to about ⅛ in/0.3 cm thick. Cut a strip a bit wider than the split itself. Adhere the piece of fondant to the cake and use a small amount of vegetable shortening to smooth the edges so that it blends with the rest of the fondant.
- Removing too much fondant as you are trimming the base of the cake can be fixed in a similar manner to a split in the fondant. Roll a thin piece of fondant just slightly larger than the area you need to fix. Adhere the piece of fondant to the cake and use vegetable shortening to smooth the edges so that it blends with the rest of the fondant.
- Do not forget that any irregularities can easily be covered with candy, flowers, piping, and other fondant or gum paste decorations. Simply reconfigure your design slightly to cover any undesirable areas of the cake.
- Wrap the covered cake in plastic wrap and place it in the refrigerator. This will reduce the chances of the cake "sweating" (condensation forming on the cake).
- Allow the cake to come to room temperature before peeling off the plastic wrap. This way, any condensation will form on the plastic wrap and not on the cake.

PIPING BUTTERCREAM BORDERS AND FLOWERS

THE TECHNIQUE FOR PIPING buttercream is similar to that for piping spritz cookies. The pastry bag is placed in the starting position, pressure is applied to pipe out the buttercream, and then the pressure is released just before the bag is lifted away, leaving the finished décor. By combining different tips and different motions—for example, by moving the tip in an up-and-down, circular, or back-and-forth motion—you can create many different patterns and effects.

PIPING A SHELL BORDER

1. Fit a pastry bag with a star tip. Holding the piping bag at a 45-degree angle, place the tip close to the surface of the cake.

2. Squeeze the bag, allowing the icing to fan forward in a rounded shape, while lifting the tip slightly.

3. Lower the tip back to the surface while slowly relaxing the pressure on the bag.

4. Stop squeezing the bag and pull the tip away from the rounded head of the shell, keeping the tip on the surface of the cake to form the "tail" of the shell.

5. To form the next shell, place the star tip at the end of the first shell and repeat.

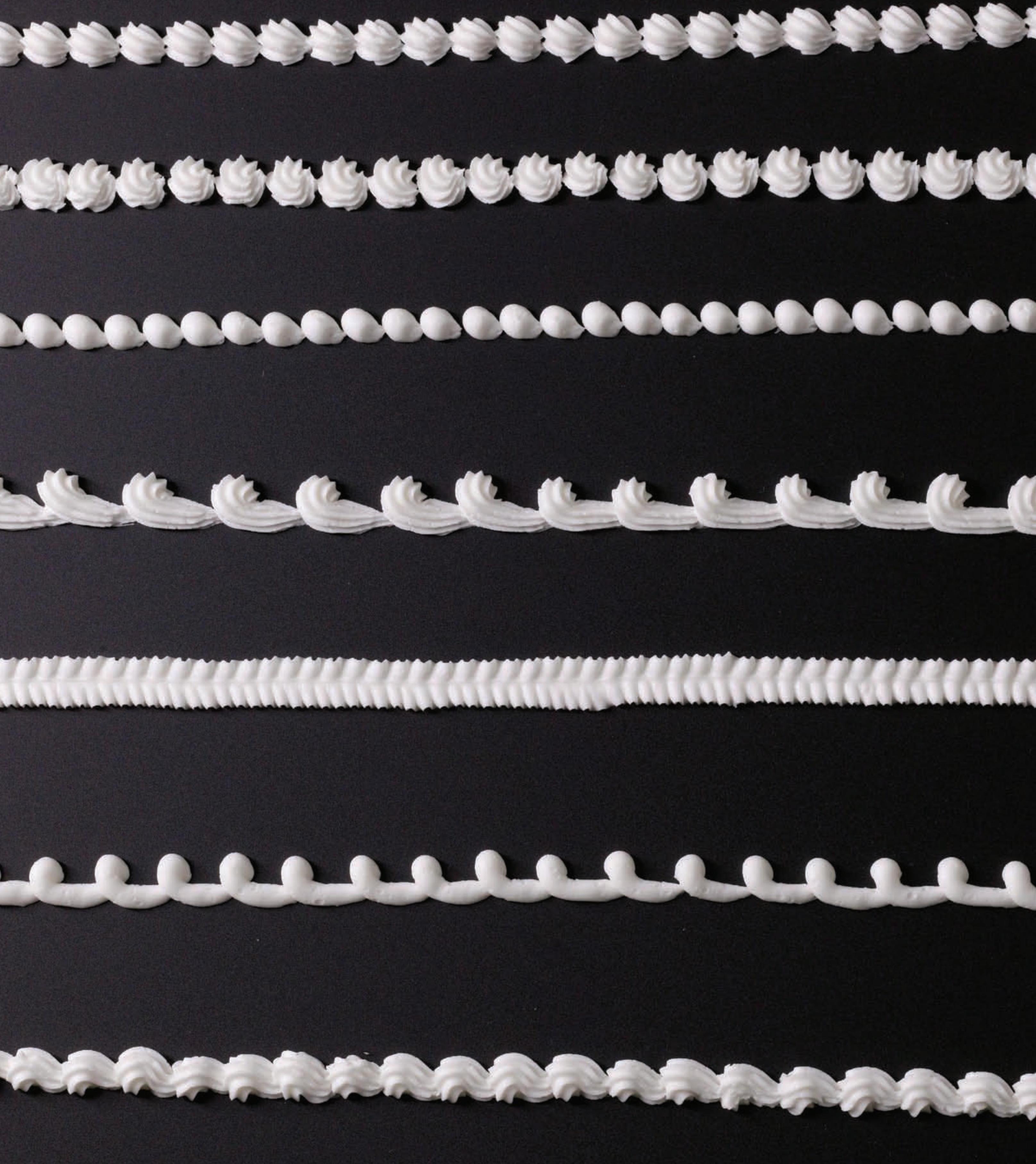
PIPING A BUTTERCREAM LEAF

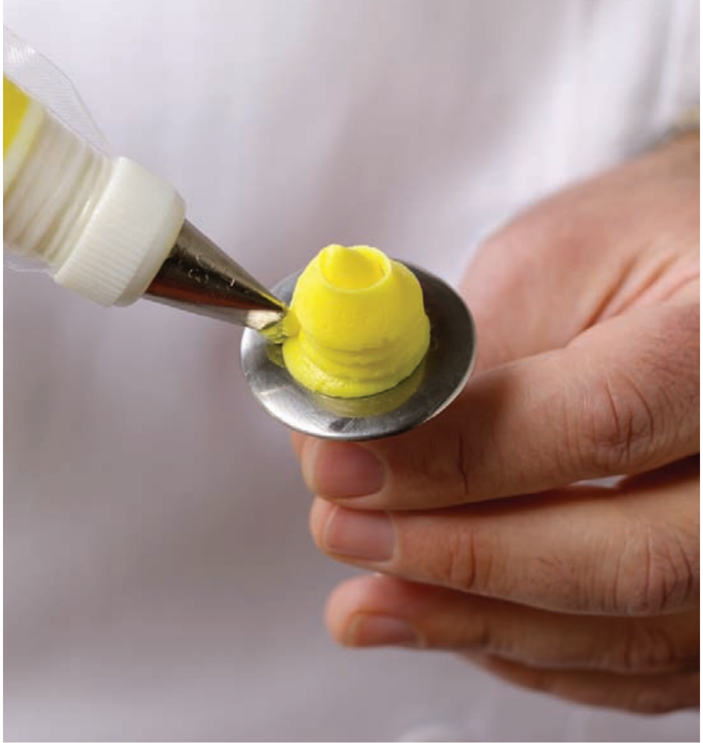
1. Fit a piping bag with a leaf tip.

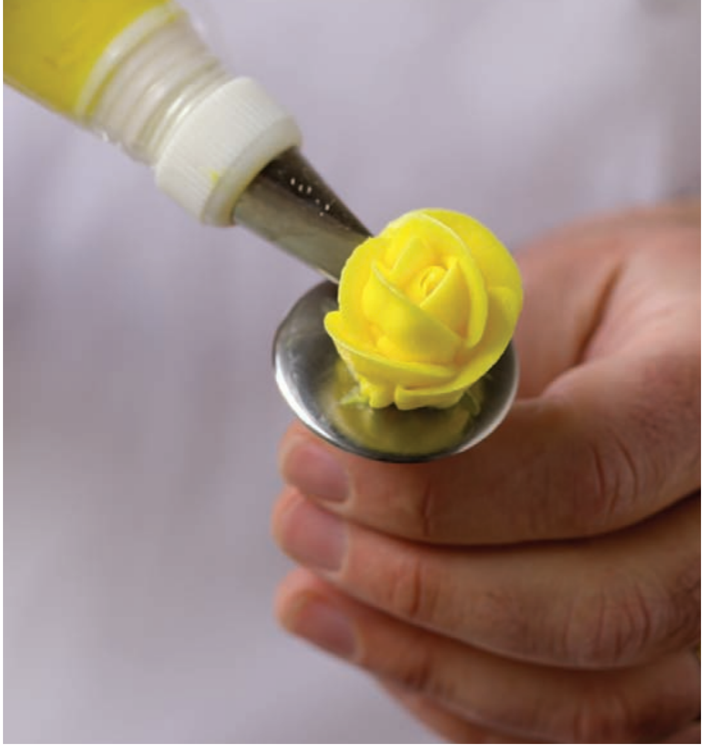
2. Place the tip close to the surface and pipe out icing to form a base for the leaf.

3. Relaxing the pressure on the piping bag, pull the tip up and away from the leaf base to form the rest of the leaf. Stop exerting pressure on the bag as you pull the tip away to form the tip of the leaf.

FROM TOP TO BOTTOM: *small shell, rosette, pearl, scallop, ribbon, bead, inverse shell.*







TOP LEFT: *Creating the inner cone of icing*

TOP RIGHT: *Piping the first petals*

BOTTOM RIGHT: *Adding petals*

PIPING A BUTTERCREAM ROSE

1. Fit a piping bag with a rose tip. Attach a small square of parchment paper to the top of a rose nail with a small dot of icing to make it easier to remove the rose once the icing has set. Hold the piping bag in your dominant hand and the rose nail in the other. Hold the bag so that the opening in the piping tip is vertical and the wider end is at the bottom.

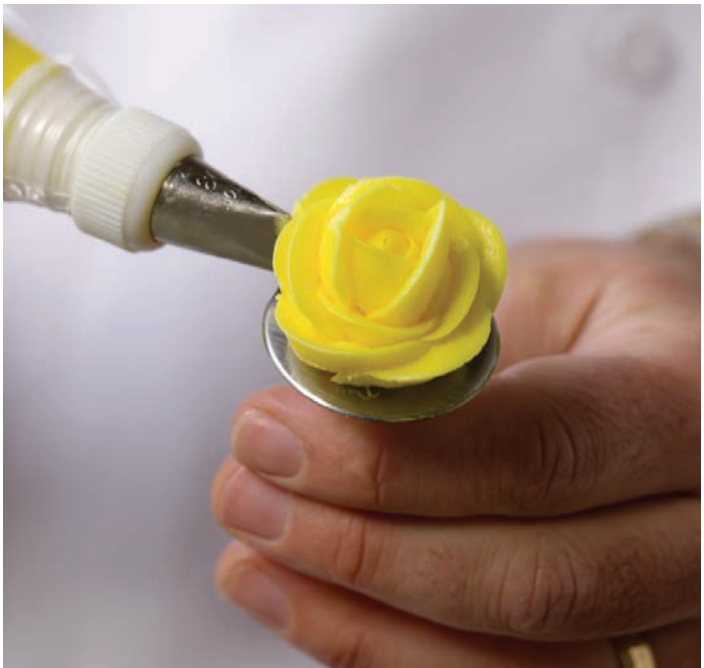
2. The rose will be built on a cone of icing. To make the cone, place the wide end of the piping tip on the surface of the nail, with the narrower end angled slightly inward. Squeeze the bag while turning the nail clockwise, keeping the piping bag and tip in the same position.

3. To form the first inner petal of the rose, place the wide end of the tip on the cone of icing, with the narrower end angled slightly inward. Squeeze the piping bag while pulling it away from the cone, creating a ribbon of icing; at the same time, turn the rose nail counterclockwise, wrapping the ribbon of icing up and around the inner cone, ending by overlapping the point at which you began piping.

4. To form the first row of three petals, place the wide end of the piping tip near the base of the inner petal, with the narrow end pointing straight up. Position the first petal over the opening of the inner petal: Pipe a ribbon of icing around and down, turning the nail counterclockwise one-third of a turn at the same time. Form the next two petals following the same procedure, beginning each petal near the center of the previous one.

5. For a larger rose, keep adding rows of petals in the same manner, increasing the number in each row and always adding an odd number of petals to keep the rose from looking square or boxy.

6. Once the icing is set, remove the rose from the nail. Use a small metal spatula to remove the rose from the paper and place it as desired.

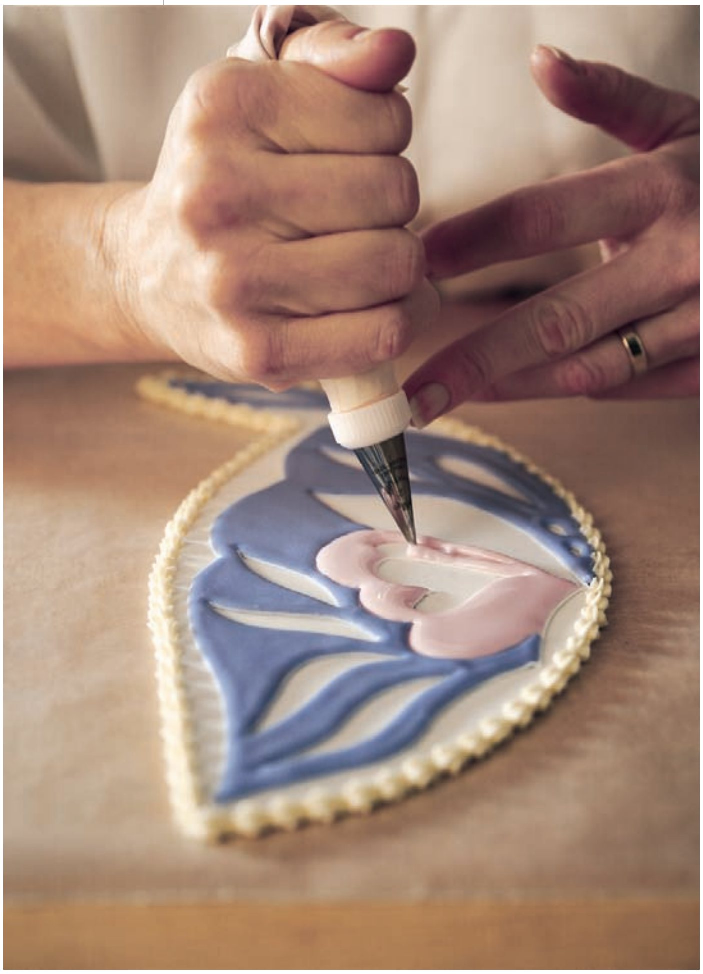


WORKING WITH ROYAL ICING

ROYAL ICING DÉCOR IS typically piped on parchment or plastic sheets, allowed to dry, and stored in airtight containers for later use. Royal icing is easily colored using food coloring or by airbrushing it. Generally, royal icing is not intended to be consumed, at least in any measurable quantity, as it has no flavor and is only sweet.

Care must be used in handling royal icing. When exposed to air, the icing dries quickly, becoming hard and brittle. If any of the dried icing gets incorporated into the icing being used for décor work, the hardened particles will block the piping tip. For this reason, it is always good practice to keep the sides of the container holding the icing clean. Remove any dried particles of icing from the sides of the container promptly with a clean damp cloth before they can fall back into the icing. While you work, keep a clean, damp paper towel directly on the surface of the icing in the container to prevent a crust from forming.

Filling an outlined shape with royal icing



Store royal icing under refrigeration with a piece of plastic wrap or a dampened paper towel placed directly on the surface. Cover the bowl or container tightly with plastic wrap to keep it airtight.

For piping royal icing, a small parchment cone may be used, but for intricate work, a very fine round writing pastry tip is usually best. The tip facilitates the production of a perfectly formed bead of icing, which in turn will enhance the quality of the décor.

Royal icing is often used to execute elaborate designs that are then dried and fitted or otherwise secured onto cakes and décor pieces. Usually a template or pattern is used to make this type of décor. Place the template or pattern under a piece of acetate or other food-safe plastic and secure it with tape or paper clips so it does not slip as you pipe the figure by tracing the template. Using a template ensures consistent results, and the technique is especially useful when the same pattern is to be repeated on a cake or décor piece.

When making large or very intricate patterns, it is usually necessary to pipe more than one layer of royal icing. Pay close attention to any connecting points or joints to ensure the finished piece will be strong enough to be lifted from the plastic and secured to the finished cake or other object. As you are planning the pattern of loops, keep in mind that loops that cross, intersect, or lie on top of one another result in greater stability of the sugar work.

Another technique often used with royal icing is called *flood work*. To do flood work or to make a run-out, an outline of a pattern or motif is piped onto acetate and allowed to dry until firm. Then thinned royal icing is used to fill in the interior of the pattern. This icing should be thin enough to fill in the design easily, with little extra manipulation or spreading necessary, minimizing the chance that any lines or imprints will be left in the finished piece. A good way to test the consistency of royal icing for flood work is to have the icing in a container, spoon some out, and allow it to drip back into the container. The drips going back into the container should disappear without a trace at the count of ten.

FLOOD WORK AND RUN-OUTS WITH ROYAL ICING

1. Outline each shape with a thin line of piped royal icing. Allow the icing to dry.

2. Thin the remaining royal icing with water until a small amount dropped back into the bowl from the tip of a spoon flattens back into the surface in 10 seconds. Color the icing as desired.

3. Fit a piping bag with a #2 plain tip. Fill the bag halfway with the royal icing. To fill the outlines with icing, begin at the edges of each one and work toward the center. At the edge of the shape, hold the tip a short distance away from the piped outline and allow the icing to flow toward the outline, creating a rounded edge. Continue piping, allowing each successive pass of icing to flow into the previous one, creating a smooth surface.

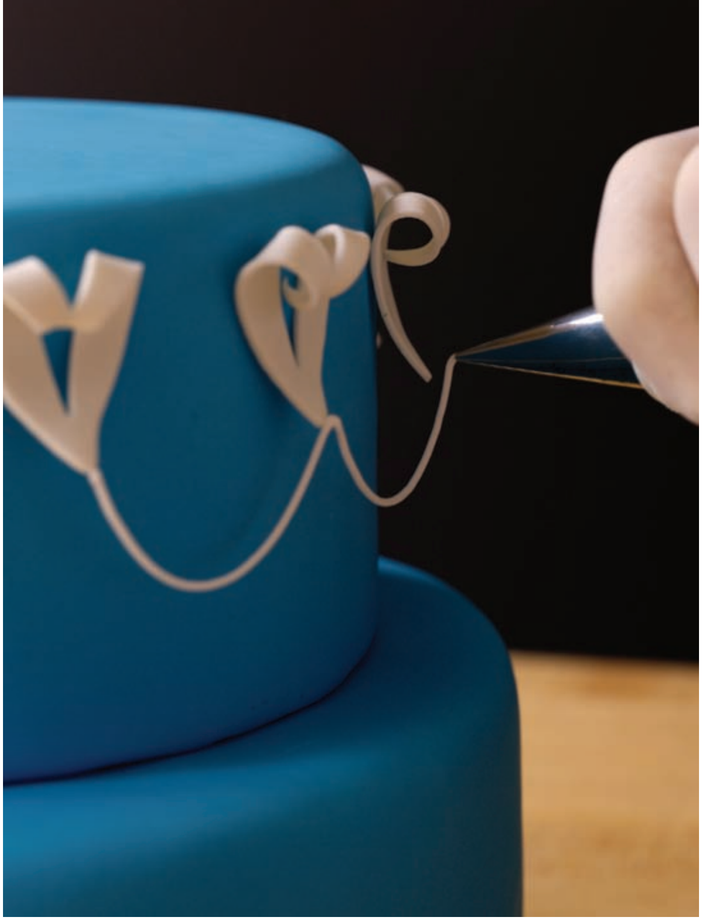
4. Place the shapes under a heat lamp or other heat source to dry. The more quickly the icing dries, the shinier the finish.

STRING WORK WITH ROYAL ICING

1. Thin the royal icing to a medium-thick consistency. Strain it through a double layer of cheesecloth.

2. Fit a pastry bag with a #0 or #00 plain tip. Fill the bag halfway with the royal icing. Test the consistency of the icing by piping a string. If the icing is too soft, it will sag and break under its weight; if the icing is too stiff, it will not fall into a smooth string. Adjust the consistency of the icing if necessary with confectioners' sugar, water, or additional egg whites.

3. Touch the tip of the pastry tip to the first attachment point, then pull the bag away while applying even pressure to it, allowing the string of icing to fall away from the tip. Do not move the tip downward; simply allow the icing to fall in a smooth curve. When the loop of icing is the desired length, touch the tip of the pastry tip to the next point to attach the string.



4. Repeat the process, using care to produce loops of the same length each time. As you are planning the pattern of loops, keep in mind that loops that cross, intersect, or lie on top of one another result in greater stability of the sugar work.

OVERPIPING

The overpiping technique is mostly seen in England, and is their most-used piping discipline. When a cake is decorated with the overpiping technique, it creates a shadowing effect and gives the piping height because it is stacked. This is an elegant approach for most cakes. Because the piping has eye appeal, it's striking for merchandising displays.

There are many borders that can be overpiped. Whatever border you identify, be sure to make the first layer of piping as straight as possible. Once you have established a solid first line, the rest of the lines that you will be stacking should be straight.

When overpiping using royal icing, as shown, you should identify a series of round tips suitable for the application. In most cases a #3 tip for the base line is good to start with. When you start to stack

the lines, identify the next smaller tip in the series of tips, in this case a #2. Follow this method of tip selection until you reach the desired finish to your stack. There are tips that are as fine as #00.

Do not overfill the parchment bag with icing. When piping with a small tip, a half-ounce of icing per bag should cover one surface of the cake. Each time you fill a small parchment bag with icing, it should be worked to a smooth consistency.

TEMPERED CHOCOLATE DÉCOR

USING TEMPERED CHOCOLATE, which will harden, rather than melted chocolate for piping enables the confectioner or pastry chef to pipe designs onto parchment paper, allow them to set firm, and then remove them from the paper and place them as desired on finished products for ornamentation and garnish. Because the piped details will become rigid once set, they can be made ahead and stored for later use. In addition, tempered chocolate designs can be used for numerous décor effects, as they do not have to lie flat. When piping tempered chocolate, use a small parchment cone, because the chocolate can easily harden in the cone if the environment is cool.

PIPING CHOCOLATE FILIGREES AND WRITING

1. Make a parchment cone and fill it no more than halfway with piping chocolate. Fold over the top and cut a tiny hole in the tip of the cone.

2. Touch the tip of the cone to the surface on which you are piping and, exerting even pressure, pull the cone up and away from the surface to create a string of chocolate. Keeping the piped string of chocolate constant and even, move the parchment cone slowly and evenly to control the way in which the string falls onto the surface. To create small loops in the filigree or writing, for example, pause at the top of the piped element and allow the string to fall in a small loop.

3. To end a motif or word, touch the tip of the parchment cone back to the surface.

TEMPERED CHOCOLATE STENCILS AND CUTOUTS

Stencils and cutouts have many applications. They can be used as a garnish for a pastry, cake, or plated dessert, as the base for piped confections, or, in décor work, as either the focal point or a component of a larger display piece.

Stencils and cutouts may be made of white, milk, or dark chocolate. Generally, the chocolate should be spread thin, but the exact thinness will depend on the intended use.

CHOCOLATE TRIANGLES (SPREAD-AND-CUT METHOD)

1. Pour tempered chocolate onto a sheet of parchment paper. With an offset spatula, spread the chocolate into a thin, even layer. Allow the chocolate to set slightly.

2. Run a cake comb lengthwise through the chocolate in a wave pattern, slightly overlapping each pass so that there are no uncombed areas of chocolate. Try to keep the thickness of the chocolate even throughout.

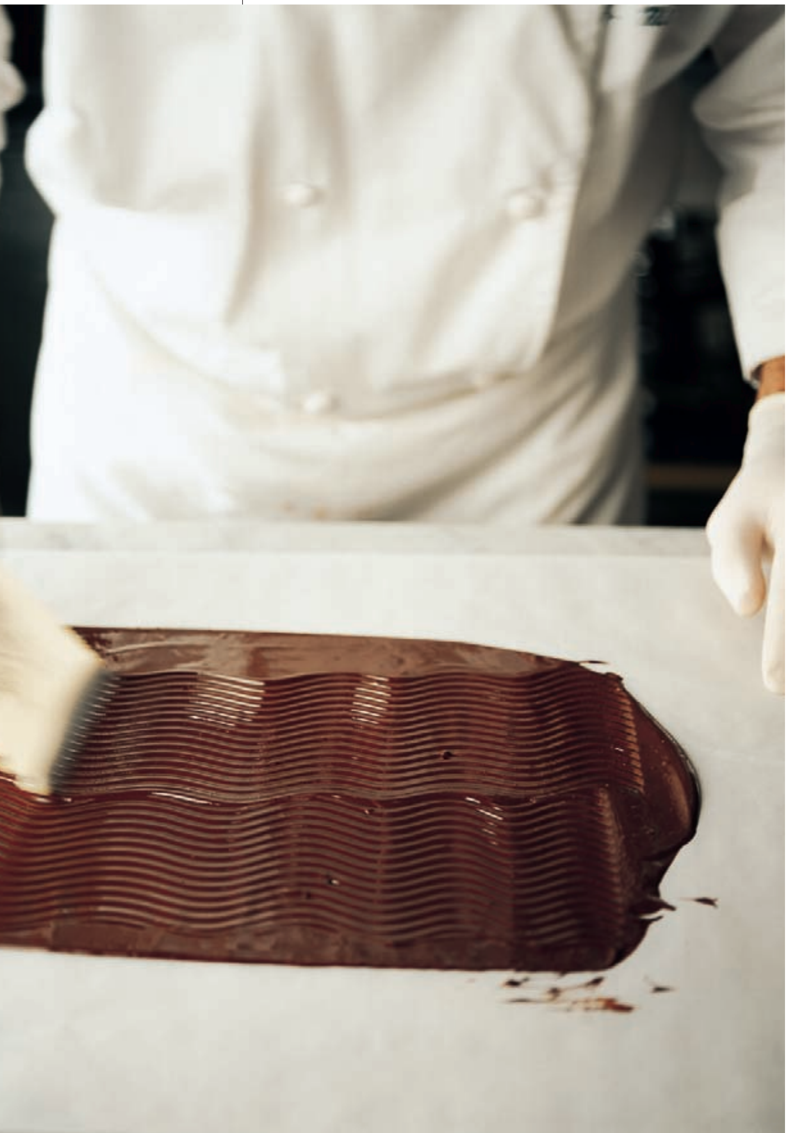
3. Allow the chocolate to set until it becomes fudgy. It should be soft enough that you can draw a knife point through it without cracking but set enough so that the cut does not refill with chocolate.

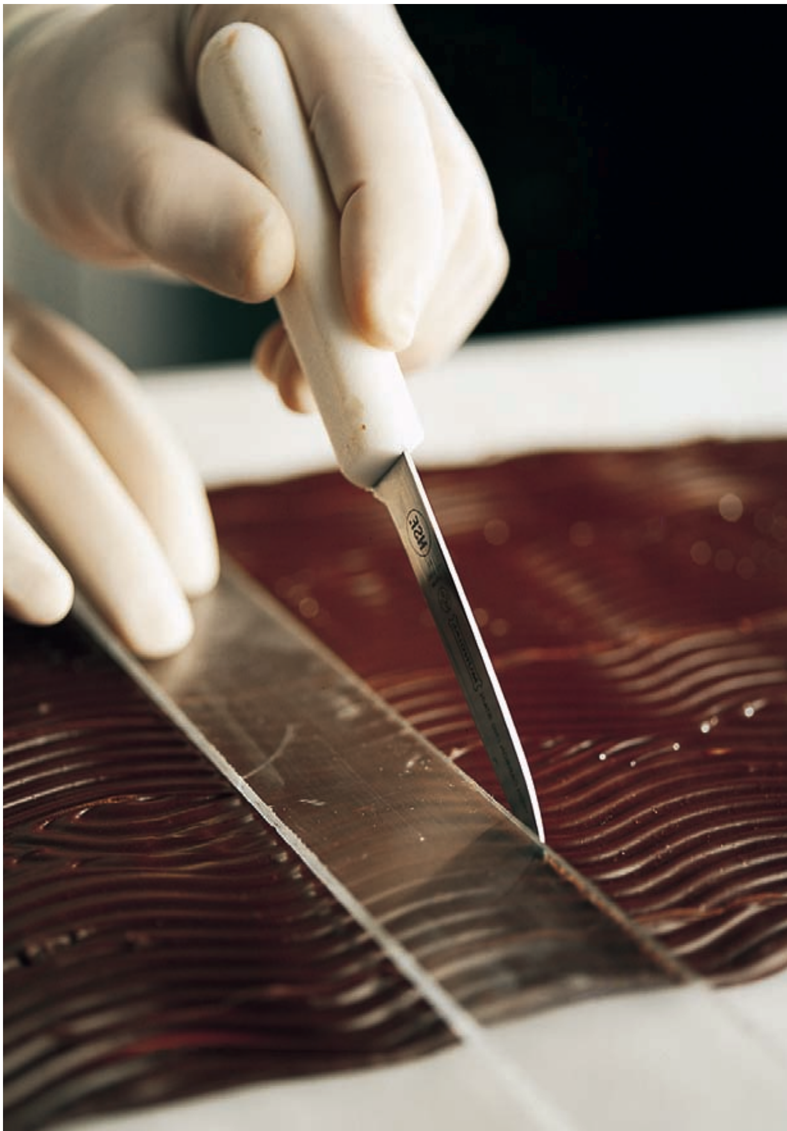
4. Using a ruler and the point of a paring knife, cut the chocolate into isosceles triangles with 1¾-in/4-cm sides and a 4-in/10-cm base: First cut the sheet of chocolate lengthwise into strips 4 in/10 cm wide. Then mark the edges of each strip at intervals of 1¾ in/4 cm. Using the ruler, connect the marks on the diagonal to make triangles.

5. Slide the sheet of chocolate onto the back of a sheet pan. Place another sheet of parchment paper on top of the chocolate. Place a second sheet pan, bottom side down, on top of the parchment paper. Grasp both sheet pans firmly and flip the sheet pan sandwich over. Remove what is now the top sheet pan. The parchment paper on which you spread the chocolate is now facing up. Carefully peel this parchment paper away from the chocolate triangles, starting at one corner. Removing the parchment paper at this point allows the chocolate to set completely without curling.

LEFT: *Combing the chocolate*

RIGHT: *Cutting out triangles when the chocolate is almost set*





CHEF'S NOTES

For a very shiny finished surface, spread the chocolate onto a sheet of acetate rather than parchment paper. When cutting the partially set chocolate into triangles, cut completely through the acetate. Leave the chocolate triangles on the acetate until time for service so that the surface does not become marred. Do not touch the shiny surface of the chocolate, as it will pick up fingerprints readily.

Any shapes can be cut out of spread chocolate, with or without combing it first. You can use ring cutters to make disks, or templates made out of stiff plastic or paper.

If desired, stripe the chocolate in the same manner as for Striped Chocolate Cigarettes (page 988).

STRIPED CHOCOLATE TRIANGLES

1. Cut two strips of acetate 6 by 18 in/15 by 46 cm.

2. Spread white chocolate ⅟₁₆ in/0.15 cm thick over one of the strips. Using the smallest side of a square-toothed cake comb, comb through the white chocolate to create a zigzag pattern. Allow the chocolate to set slightly.

3. Spread dark chocolate thinly and evenly over the white chocolate. Transfer the acetate strip to a cutting board and allow the chocolate to set for 10 seconds.

4. Place the other acetate strip on top of the dark chocolate. Cut the strip lengthwise in half to make two strips 3 in/8 cm wide. Cut triangles with a base 1 in/3 cm wide out of each strip.

5. Place another cutting board on top of the triangles to keep them flat. Allow the triangles to set for a minimum of 3 hours. Remove the acetate from the triangles when you are ready to use them.

MARBLEIZED CHOCOLATE PLAQUES

1. Drizzle tempered white chocolate, milk chocolate, and dark chocolate onto a sheet of acetate, overlapping the different colors of chocolate. With a long offset spatula, spread the chocolates into thin, even layers, allowing them to merge and flow together. Do not mix the chocolates too vigorously or the finished plaques will look muddy instead of attractively marbled.

2. Allow the chocolate to set until it becomes fudgy. It should be soft enough that you can draw a knife point through it without cracking but set enough so that the cut does not refill with chocolate.

3. Using a ruler and the point of a paring knife, cut the chocolate into rectangles 2 by 2¾ in/5 by 7 cm: First cut the sheet of chocolate lengthwise into strips 2¾ in/7 cm wide. Then mark the edges of the strips at intervals of 2 in/5 cm. Using the ruler, connect the marks from top to bottom.

4. Slide the sheet of chocolate onto the back of a sheet pan. Place another sheet of parchment paper on top of the chocolate. Place a second sheet pan, bottom side down, on top of the parchment paper. Grasp both sheet pans firmly and flip the sheet pan sandwich over. Leave the sheet pans stacked until the chocolate is completely set. Leave the chocolate rectangles on the acetate until you are ready to use them.

CHOCOLATE CIGARETTES

1. Drizzle a thin line of tempered chocolate onto a marble surface, parallel to the edge of the marble. Using an offset spatula, spread the chocolate in a thin, even layer. Let the chocolate set slightly.

2. When the chocolate is somewhat set, place a Plexiglas strip the width of the desired finished length of the cigarettes on top of the chocolate and evenly trim the edges of the chocolate strip with a bench scraper or putty knife.

3. With the bench scraper or putty knife, begin scraping cigarettes from one short end of the chocolate strip with a quick, abrupt motion; it should feel as though you are trying to scrape off a thin layer of marble. If the chocolate is not set enough, the cigarettes will not curl properly; and if the chocolate has set too much, the cigarettes will crack and break. Chocolate that is just slightly too cool can be warmed with the palm of your hand.

4. To trim the cigarettes, warm a sharp knife. Place the blade at the desired point and allow the heat of the knife to melt the chocolate. The chocolate cigarettes can also be tossed in cocoa powder to resemble cinnamon sticks.

MINI CIGARETTES

1. Spread tempered chocolate on a marble surface no wider than the width of the tool you will be using to form the cigarettes or, when the chocolate is somewhat set, use the tip of a paring knife to score the chocolate into narrow strips. Let the chocolate set briefly.

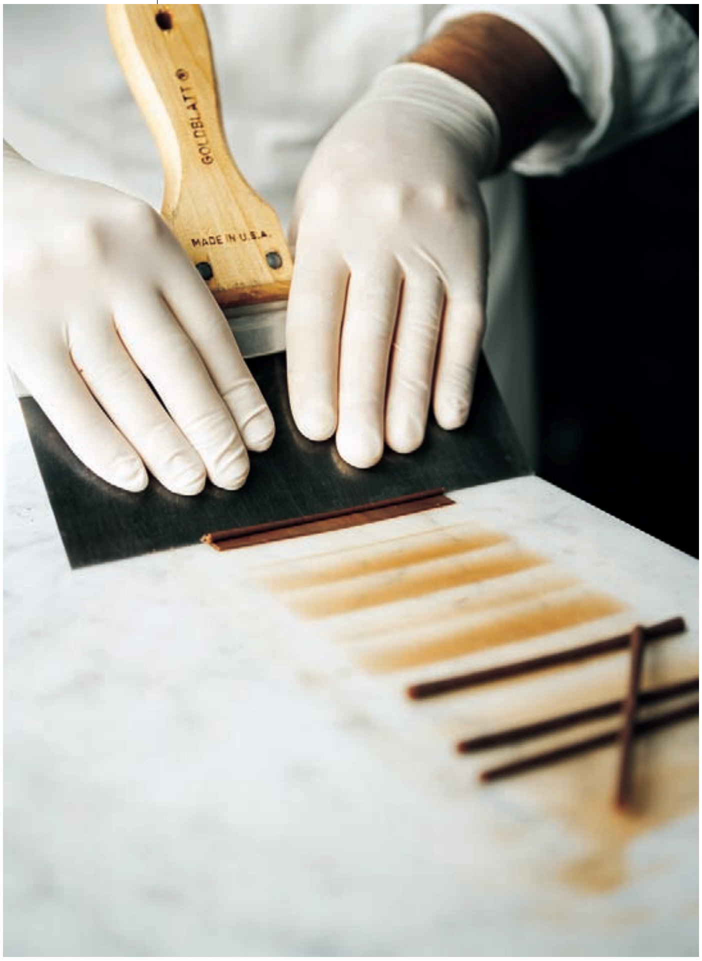
2. Using the same motion as described above, scrape the chocolate into mini cigarettes. It is important to scrape the chocolate with a motion directly parallel to the length of the strip; otherwise, the mini cigarettes will curl into each other and be difficult to separate.

STRIPED CHOCOLATE CIGARETTES

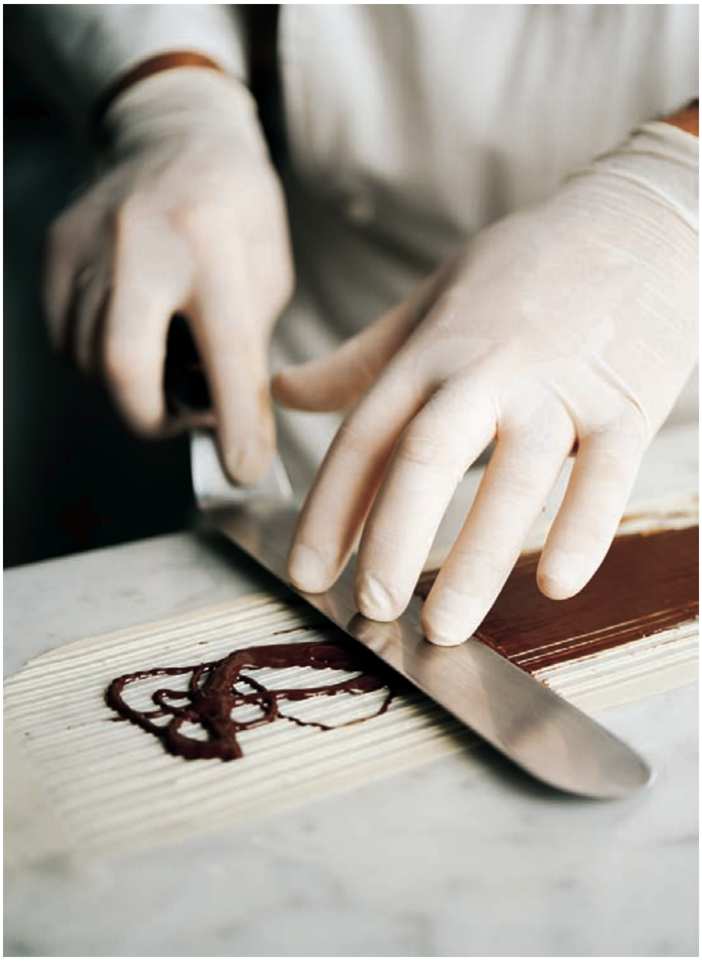
1. Drizzle a small amount of tempered white chocolate onto a marble surface. With an offset spatula, spread the chocolate in a strip parallel to the edge of the marble. Allow the chocolate to set until thick in consistency.

2. Draw a square-toothed cake comb firmly through the chocolate, scraping all the way down to the marble to make thin lines of chocolate. Try to keep the lines of chocolate straight and parallel to the edge of the marble.

3. Working quickly, drizzle dark chocolate over the white chocolate and spread it thinly and evenly with an offset spatula. The dark chocolate should fill the channels in the white chocolate left by the comb; spread it thin enough so that the white chocolate shows through the dark chocolate.



LEFT: *Forming dark chocolate cigarettes*



RIGHT: *Backing the striped white chocolate with dark chocolate*

4. When the chocolate is no longer tacky but still pliable and somewhat soft, place a Plexiglas strip the width of the desired finished length of the cigarettes on top of the chocolate and evenly trim the edges of the chocolate strip with a bench scraper or putty knife.

5. With the bench scraper or putty knife, begin scraping cigarettes from one short end of the chocolate strip with a quick, scraping motion; it should feel as though you are trying to scrape off a thin layer of marble. If the chocolate is too warm, the cigarettes will not curl properly; and if the chocolate is too cool, the cigarettes will crack and break. Chocolate that is just slightly too cool can be warmed with the palm of your hand.

6. To trim the cigarettes, warm a sharp knife. Place the blade at the desired point and allow the heat of the knife to melt the chocolate.

VARIATION

MARBLED CIGARETTES *Marble the chocolate as for Marbleized Chocolate Plaques, then shape as for chocolate cigarettes.*

CHOCOLATE FANS

1. Fill a parchment piping cone with tempered chocolate. Pipe four or five quarter-size rounds of chocolate onto a parchment-lined sheet pan, spacing the rounds about 4 in/10 cm apart.

2. With the back of a spoon, spread chocolate across the parchment paper in an arc away from one round of chocolate. Repeat the motion four more times, beginning each arc at approximately the same point and making each arc shorter than the one before it, slightly overlapping the arcs. This motion creates a "fan" of chocolate with two ridges in it. Do not make the chocolate too thin or the fan will break. The base of the fan should be thicker than the top edges. Repeat with the remaining rounds of chocolate. Allow the chocolate to set completely.

3. The fans can be used as they are, or the top edges can be neatened with a warmed round metal cutter.

CHOCOLATE BANDS

1. Place a strip of acetate the desired width of the chocolate band on a marble surface or piece of parchment paper. Drizzle tempered chocolate onto the acetate. With an offset spatula, spread the chocolate thinly and evenly over the entire surface of the acetate; some of the chocolate should go over the long sides of the acetate.

2. Allow the chocolate to set slightly so that the acetate can be picked up without the chocolate running. The chocolate should still be fluid enough to adhere to the surface or item where it is applied.

3. Pull up a corner of the acetate, then carefully lift up the acetate strip and apply the chocolate band to the desired surface. Place the band carefully, starting with one end; once it touches the surface, it cannot be moved without damaging the chocolate.

4. Peel away ½ in/1 cm of the acetate from the end you first attached, and overlap the other end of the band so that the chocolate adheres to itself. While the chocolate is still slightly tacky, use scissors to trim the acetate and the chocolate where it overlaps.

5. To preserve its shiny finish, leave the acetate on the chocolate until time for service.

CHOCOLATE SHAVINGS

1. Brace a large block of tempered chocolate against the near edge of a parchment-lined sheet pan.

2. Hold a sharp chef's knife so that the flat of the blade is straight up and down and the tip of the blade is pointing to your nondominant side. Using a smooth scraping motion, pull the blade across the surface of the chocolate, without digging the blade into the chocolate. To create small shavings, use a short scraping motion; for larger shavings, use a longer motion.

3. Use an offset spatula to move the shavings. Do not pick up the shavings with your hands or they will melt.

CHOCOLATE RUFFLES

1. Place a sheet pan in a low-temperature oven until it is just warm. Have ready a bowl of melted but not tempered chocolate that is also warm, just above body temperature. The chocolate and the sheet pan should be approximately the same temperature.

2. Pour the chocolate onto the back of the sheet pan and spread it thinly and evenly with an offset spatula, covering the back of the pan completely.

3. Place the sheet pan in the freezer until the chocolate is set but still malleable. (If the chocolate becomes too hard, remove the pan from the freezer and allow it to sit at room temperature until the chocolate is malleable.)

4. Brace the sheet pan against a wall or the back-splash of a counter. Using a bench scraper or putty knife, begin scraping the chocolate off the sheet pan in long strips. As you scrape, use your other hand to gather one of the long edges of the chocolate strip to create a ruffle.

5. Store the ruffles in a cool, dry place.

WORKING WITH MODELING CHOCOLATE

MODELING A CHOCOLATE ROSE

1. Each rose will need approximately 4 oz/30 g of modeling chocolate. Knead the modeling chocolate until it is pliable.

2. Shape about one-quarter of the modeling chocolate into the center of the rose by shaping it into a cone and then rolling the tip of the cone on the work surface so it is thin. Flatten the bottom of the center so that it stands up on its own.

3. Roll out the remaining modeling chocolate on the silicone baking mat until it is 1⁄16 in/0.15 cm thick.

4. Cut out 10 circles with a 1¼-in/3-cm cutter. Remove the excess modeling chocolate and wrap it tightly in plastic wrap. Thin the top edge of each petal using the back of a spoon or plastic hand scraper to make the rose look more realistic.

5. Two of the rounds will be used to make the bud. Attach the first petal by connecting it to the tip of the base and then wrapping it around. Smooth the base of the petal into the center of the flower. Repeat this process with the other petal. For a more realistic appearance, tuck each petal inside the previous one so they overlap slightly.

6. The next row needs three petals that are attached to the bud and slightly overlap. Curl back the edge of one side of each petal and attach the petals so the uncurled side is tucked into the previous petal.

7. You can repeat this process with another row of five petals.

CHEF'S NOTE

These same techniques can be applied to making roses out of marzipan and gum paste, as shown on page 991.

MODELING CHOCOLATE LEAVES

1. Knead a small amount of modeling chocolate until it is pliable.

2. Roll out the modeling chocolate on a silicone baking mat until it is ⅛ in/0.3 cm thick. Cut out the leaves with the leaf cutter. Gather the excess modeling chocolate and wrap it tightly in plastic wrap so it does not dry out. Cover the leaf cutouts with a piece of plastic wrap.

3. Dust the leaf veiner with cocoa powder if you are using dark or milk modeling chocolate, or cornstarch if you are using white modeling chocolate.

4. Vein each leaf. Store on a parchment-lined sheet pan.

5. Once they are dry, brush off any excess cornstarch or cocoa powder.

CHEF'S NOTES

If you do not have a leaf veiner, use the back of a paring knife to make veins, then, shape the leaves by draping them over an egg carton. This will bend and shape them to make them look more realistic.

This method may be used for gum paste as well.

WORKING WITH MARZIPAN

MARZIPAN IS A PASTE made of ground almonds and sugar. The best-quality marzipan, made with fresh nuts and the proper proportion of sugar, has a fresh, natural flavor. Marzipan can be used as a center, to be enrobed in chocolate, or as a confection by itself.

There are a number of methods for making marzipan, but for the small-scale confectioner, the classic French method is the most practical. The nuts are coarsely ground and a syrup of sugar, water, and glucose is boiled to the appropriate temperature. The cooked syrup is poured over the nuts and they are spread on a lightly oiled marble surface to cool. Once cooled, the sugar-coated nuts are ground to a paste consistency.

The ratio of almonds to sugar varies depending on the intended use of the finished product, as does the temperature to which the syrup is cooked—the hotter the syrup, the firmer the marzipan. For confectionery work, the syrup is usually cooked to 257°F/125°C to make a firm marzipan. The syrup for a pâtisserie marzipan, which is used for fine décor work, is cooked only to 246°F/119°C, resulting in a softer marzipan. Marzipan should be ground in a mélangeur, a special machine with adjustable marble rollers. The mélangeur produces the smoothest possible finished product. However, if a mélangeur is unavailable, a food processor is acceptable.

When marzipan is ground without sufficient moisture, it will separate and appear oily. If this occurs, add a small amount of liquid, either a spirit or syrup, to the marzipan to return it to the proper consistency. The liquid enables the marzipan to reabsorb the oil that has separated out. It may also be necessary to add a small amount of confectioners' sugar.

Marzipan should be firm but not dry or brittle. To fix marzipan that is too hard or dry, massage in a few drops of spirit or glucose. To fix marzipan that is too brittle, for each 2 lb 4 oz/1.02 kg of marzipan, massage in a piece of fondant approximately the size of a walnut. If the marzipan is so soft that it sticks to your hands or the work surface, massage in confectioners' sugar or a mixture of equal parts nonfat dry milk and cornstarch. You can replace from 25 to 50 percent of the almonds in marzipan with other nuts such as hazelnuts or pistachios.

MARZIPAN FLOWER CUTOUTS

1. On a surface dusted with confectioners' sugar, roll a piece of marzipan with a small rolling pin to between ¹⁄₁₆ and ⅛ in/1.5 and 0.3 cm thick.

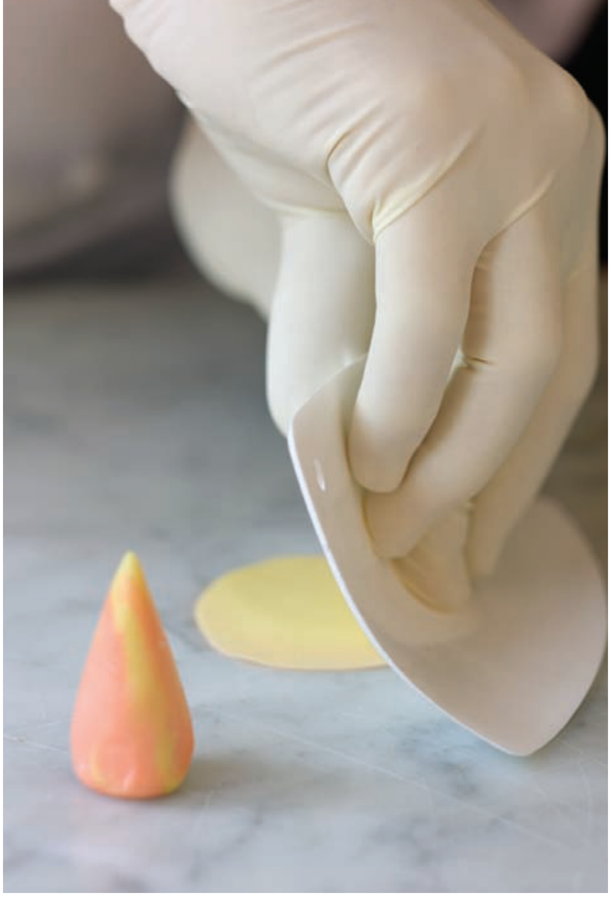
2. With a small flower cutter, cut out flower shapes from the marzipan. With the small end of a marzipan ball tool, press the center of each flower into a piece of urethane foam to create an indentation in the center of the flower.

3. To make centers for the flowers, shape small pieces of marzipan into tiny balls and place one in the indentation in each flower. Position the centers while the marzipan is still soft so that they will stay in place.

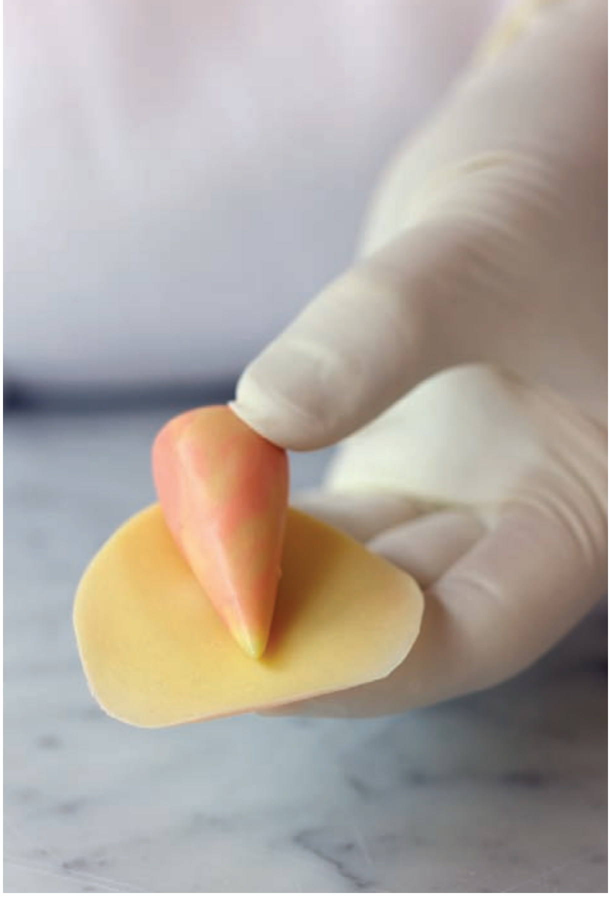
4. To create layered flowers, cut flower shapes with different sizes of cutters and different colors of marzipan. Stack the shapes and press them into the foam at the same time.

MARZIPAN ROSES

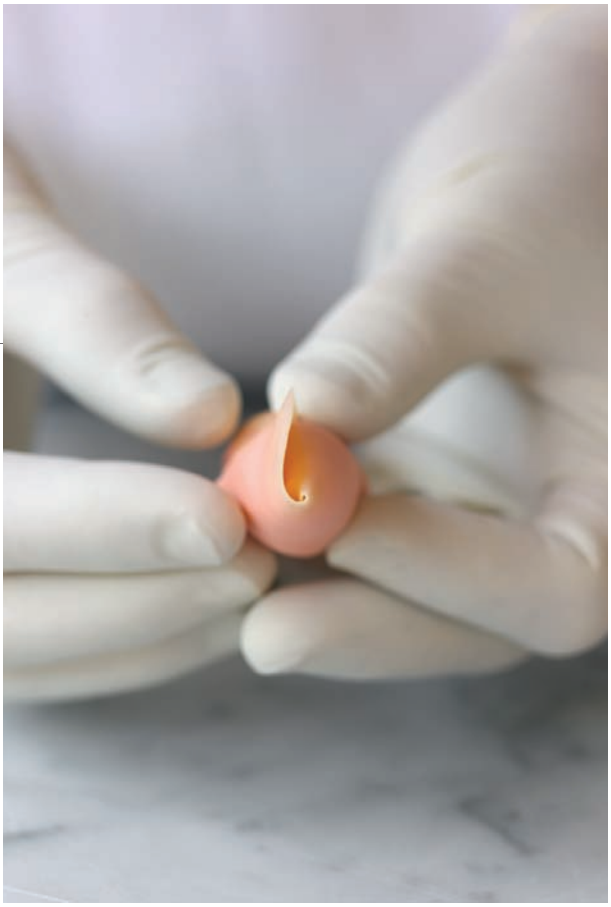
1. Form a small piece of marzipan into a cylinder about 1½ in/4 cm long and ½ in/1 cm in diameter. Make an indentation in the cylinder approximately two-thirds of the way down from the top. Taper the cylinder to a point. Stand this cone on your work surface, pressing gently so that the bottom adheres to the surface.



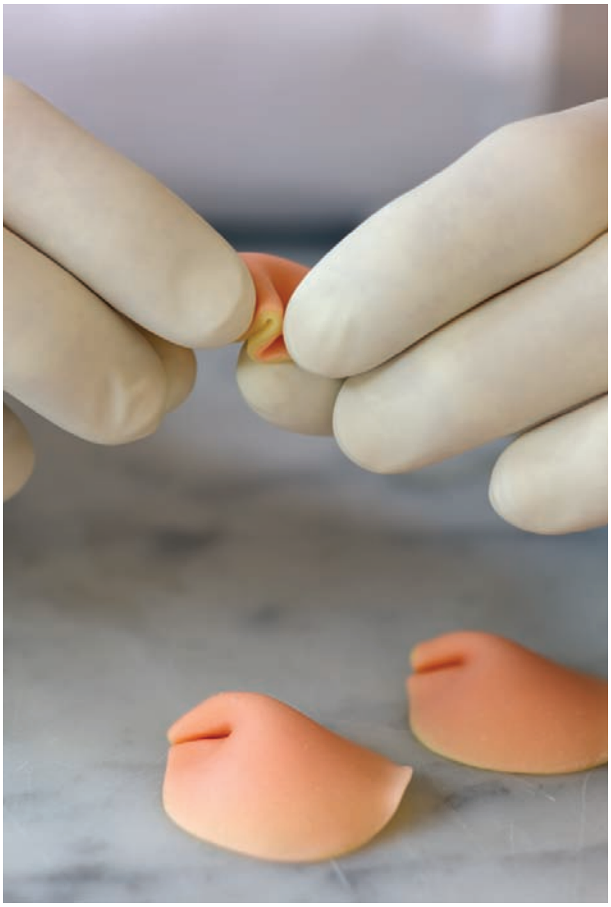
TOP LEFT: *Form a cone and press to adhere to the work surface. Using a plastic bowl scraper, flatten and shape balls to make petals.*



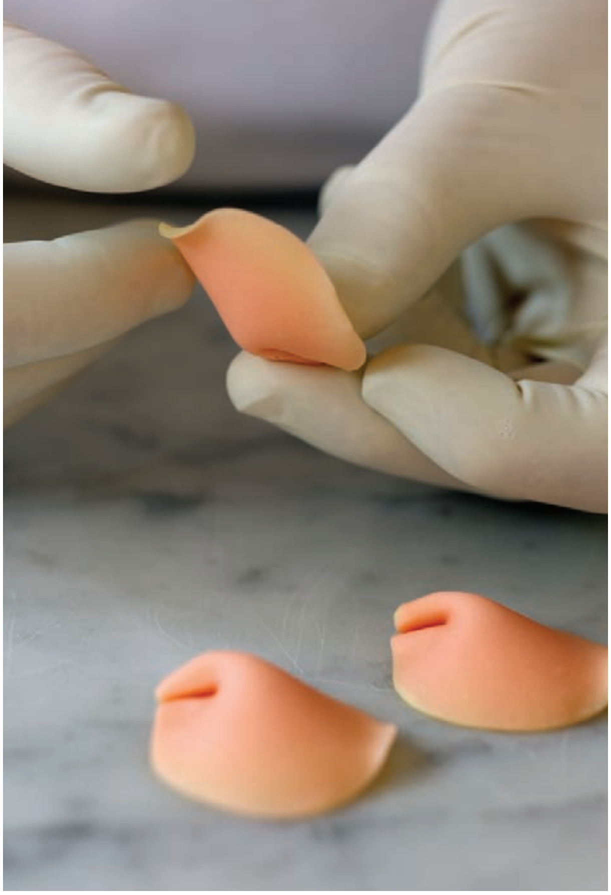
TOP RIGHT: *To form the first inner petal of the flower, place one petal on the prepared marzipan cone, with the thin edge at the top and the thick edge at the indentation in the cone.*

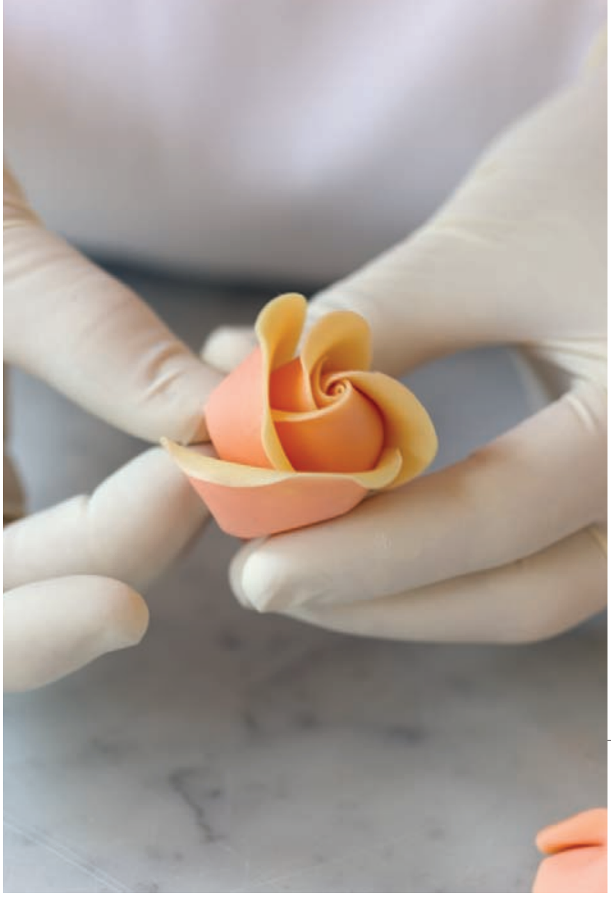


BELOW LEFT: *Wrap the petal tightly all the way around the cone so that the edges overlap. Use your fingers to gently turn back a small section of the top edge of the petal.*



BELOW RIGHT: *Make a small cut in the center of the thick edge of each petal, then overlap the resulting two sections and press them together to form a cupped shape.*



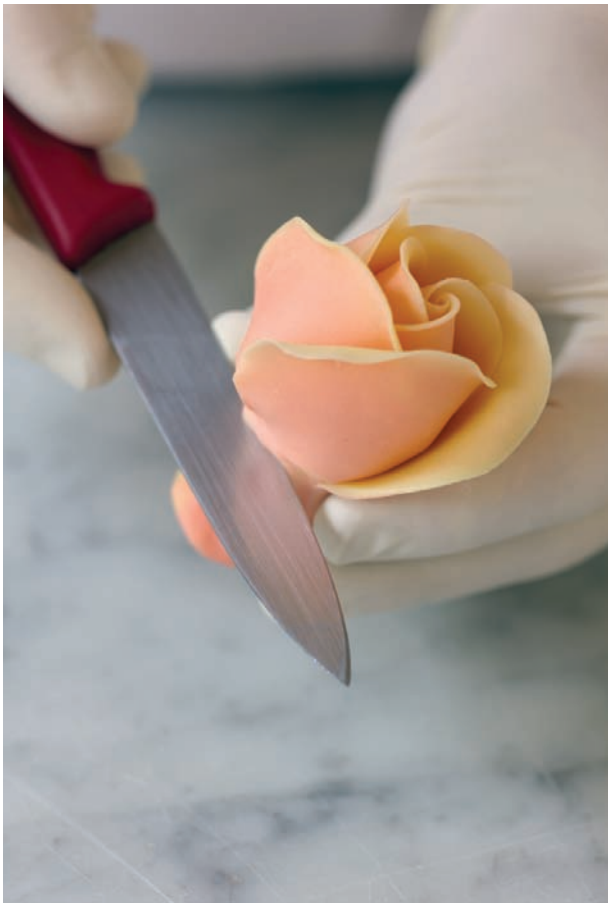


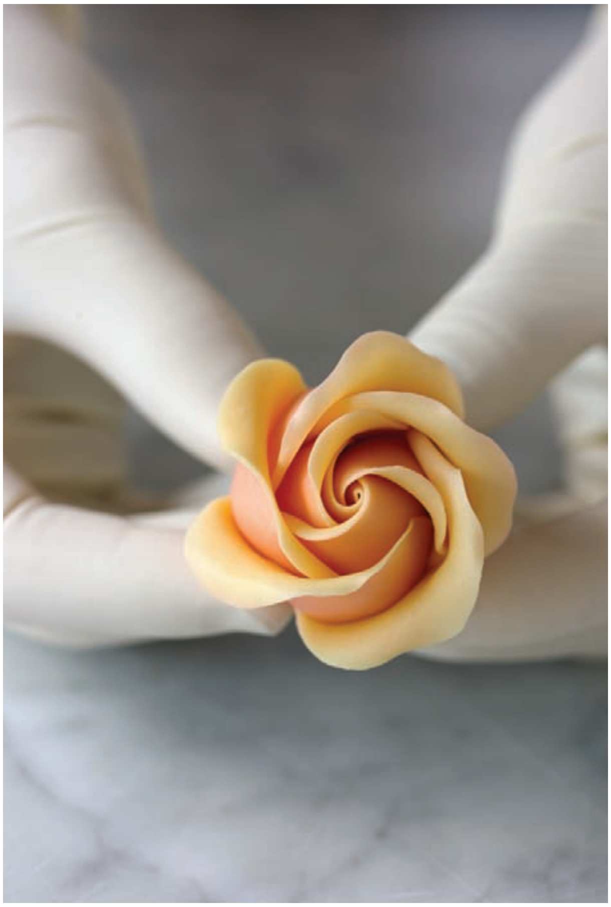
TOP LEFT: *Use your fingers to gently turn back a small section of the top edge of the petal.*

TOP RIGHT: *Position the formed petals around the cone, or center of the rose.*

BELOW LEFT: *Gently squeeze the bottom of the rose to create a rounded base. Cut the extra marzipan away from the base.*

BELOW RIGHT: *Allow the rose to dry at room temperature.*





2. Form a piece of marzipan into a rope approximately ½ in/1 cm in diameter. Cut it into four pieces and roll them into small balls about ½ in/1 cm in diameter.

3. Place the balls on a marble surface, about 2 in/5 cm away from the front edge of the marble. Using a plastic bowl scraper, flatten the front edge of each ball with three short strokes. Use a smooth motion, pushing down on the marzipan and pulling the scraper toward you in one motion. The front edge of the marzipan petals should be very thin but the back edge should remain quite thick. (The difference in thickness will allow you to form a delicate-looking rose that will still support its own weight.)

4. Holding the blade of a clean, sharp slicer flat against the marble, cut each petal off the marble. Make a small cut in the center of the thick edge of each petal, then overlap the resulting two sections and press them together to form a cupped shape.

5. To form the first inner petal of the flower, place one petal on the prepared marzipan cone, with the thin edge at the top and the thick edge at the indentation in the cone. Hold the petal tightly against the cone and wrap it all the way around the cone so that the edges overlap. The highest point of the petal should be just above the tip of the cone. There should be a tiny hole at the top of the wrapped petal, but the cone should no longer be visible. Use your fingers to gently turn back a small section of the top edge of the petal. Gently squeeze the bottom of the petal into the indentation in the cone.

6. Use the remaining three petals to form the first layer of rose petals. Place one of these petals on the rose, with its center in line with the edge of the first petal. The top of this petal and the subsequent ones should be even with or just slightly above the top of the inner petal. Press the bottom left side of the petal into the rose, leaving the right side open.

7. Position the other two petals in the same fashion, so that their centers line up with the previous petal's left edge, and gently curl the thin right edge of each petal back with your finger. The third petal's left edge should nestle inside the first petal's open right side. Gently press all the petals' bottom edges together and squeeze the bottom of the rose into the indentation in the cone, forming a rounded bottom to the rose.

8. Make another slightly thicker snake out of marzipan and cut it into five pieces. Form these into balls and then petals in the same fashion as above.

9. Use these five petals to form the second layer of rose petals. Place them on the rose in the same fashion, but with each petal overlapping the previous one by only about one-third. The tops of these petals should also be even with or just slightly below those of the previous petals. Gently curl each side of these five petals back and create a crease or point in the middle of the petal.

10. If desired, add another layer of seven petals to the rose.

11. Gently squeeze the bottom of the rose to create a rounded base. Cut the extra marzipan away from the base. Allow the rose to dry at room temperature.

MARZIPAN PLAQUES

1. Dust a work surface with confectioners' sugar. Roll a piece of marzipan to ¹⁄₁₆ in/0.15 cm thick using a small rolling pin.

2. Using a cutter or a template and sharp paring knife, cut a circle, oval, or other desired shape out of the marzipan.

3. Lay the plaque on a flat surface and, using your fingers and the palm of your hand, buff and smooth the cut edges and the top surface of the plaque, being careful not to crack or break the marzipan.

4. Place the plaque on a parchment-lined sheet pan and allow to dry at room temperature until it is completely hard. Use an emery board or very fine sandpaper to smooth any rough edges. Pipe lettering on the plaque or decorate as desired.

CHEF'S NOTE

This method may be used for pastillage as well.

SUGAR WORK

BLOWN SUGAR APPLES

1. Warm a piece of red sugar in the microwave until it is hot and pliable but not so hot that it is fluid; check it frequently to ensure that it does not become too hot in one place while still hard in another.

2. Place the sugar under a heat lamp.

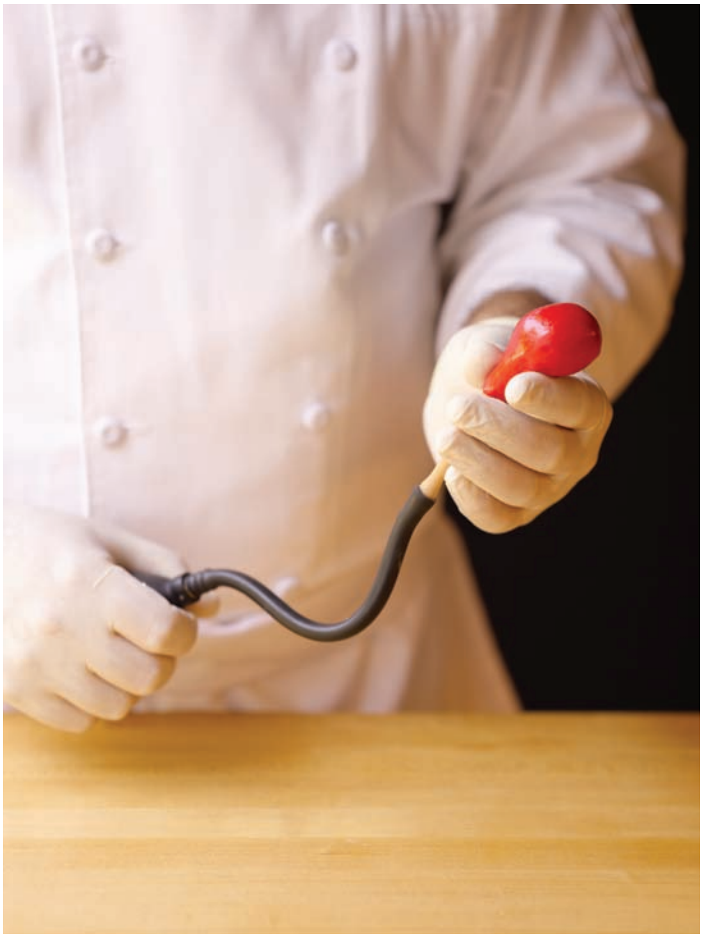
3. Make a "foot" of sugar on the pipe by wrapping a small piece of sugar around the tip of the pipe so the sugar apple will adhere to the pipe. Knead and pull the remaining sugar with your hands until it is a consistent texture and temperature. With your open dominant hand, grasp the piece of sugar and then close your hand, forcing a round ball of sugar out through your closed thumb and forefinger. Cut this ball away from the main piece of sugar.

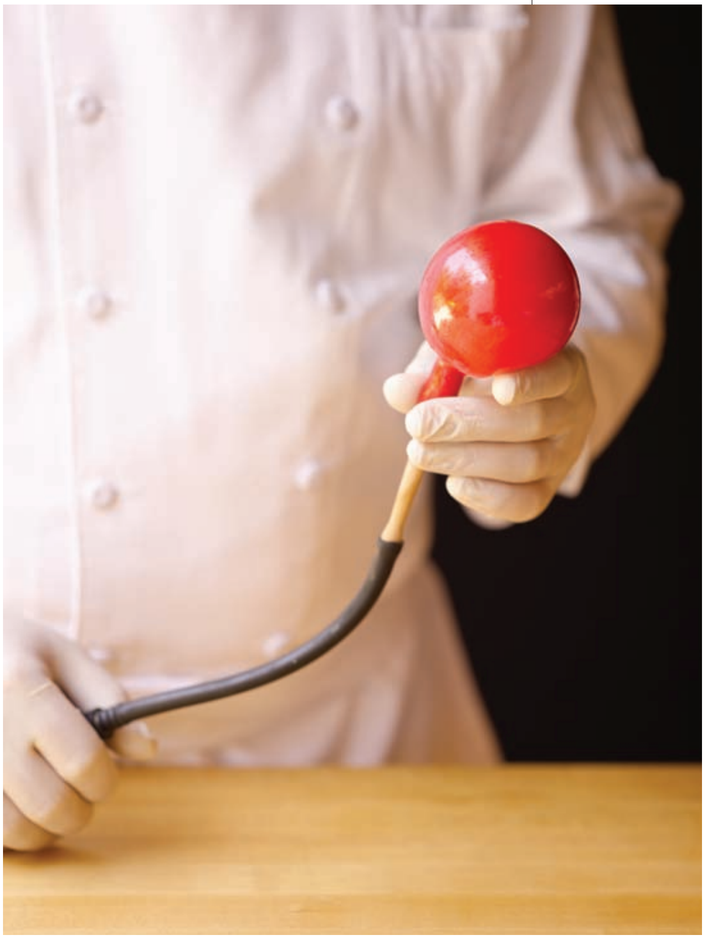
4. Push your finger down into the center of the ball of sugar, creating an indentation. Make sure the thickness of the sugar is the same all the way around the indentation; if it varies in thickness or temperature, the sugar is more likely to blow out in a thin spot.

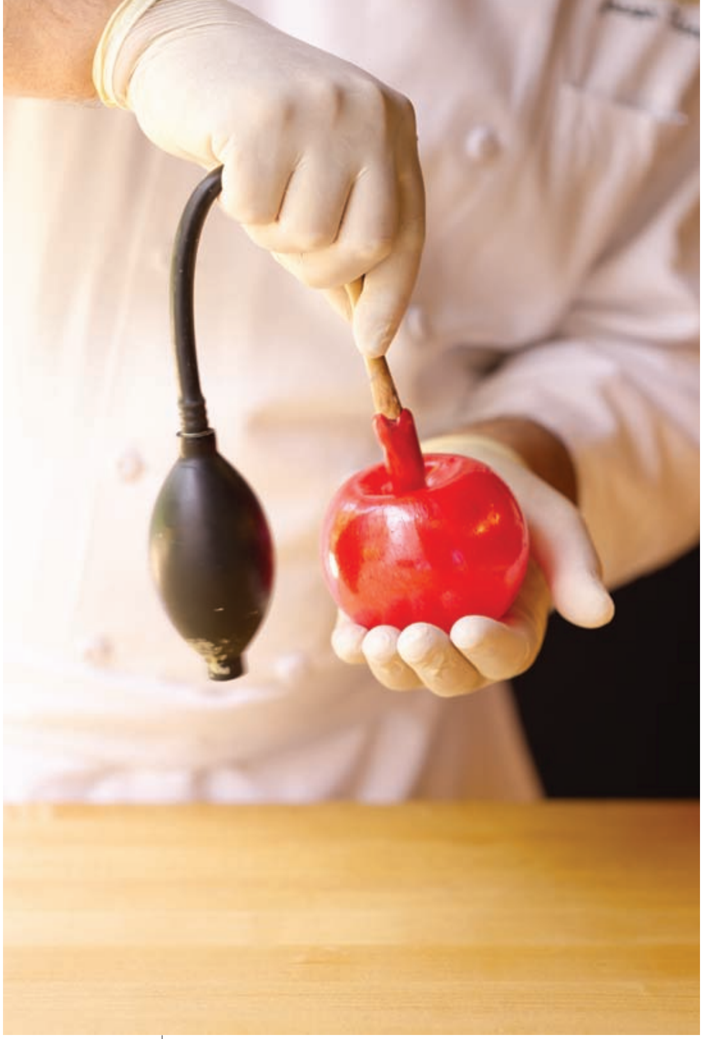
5. Heat the foot of sugar on the sugar pump over a Sterno flame, then place the ball of sugar on the tip of the pipe, being sure to leave enough space inside the indentation above the end of the pipe so that air will be able to come out of the pipe. Squeeze and press the base of the sugar ball around the end of the pipe, attaching it to the sugar foot.

LEFT: *Make a "foot" of sugar on the pipe so that the sugar adheres properly.*

RIGHT: *Slowly pump air into the ball, turning as you work to maintain an even shape.*







LEFT: *To make an apple, turn the sphere over and press the pipe down slightly to create an indentation.*

RIGHT: *A finished blown sugar apple.*

6. Hold the ball of sugar in one hand and squeeze the pump with the other until the ball of sugar expands. Stop pumping and shape the sugar into a apple with your hands; at the same time, mold a thick stem at the base of the apple that protrudes above the end of the pipe. Continue to alternately pump air into the apple and shape it until it is the shape and thickness desired. The thinner the walls of the apple, the shinier the sugar will be when it cools.

7. Cool the apple under a blow-dryer. To cut the apple away from the pump, heat just the thick stem over the Sterno flame. Place the open blades of a pair of scissors around the stem and slowly and gently close them until the sugar cracks.

STRAW SUGAR

1. Warm a piece of sugar in the microwave until it is hot and pliable but not so hot that it is fluid; check it frequently to ensure that it does not become too hot in one place while still hard in another.

2. Place the sugar under a heat lamp. Cut a piece approximately 1½ by 6 in/4 by 15 cm from the piece of sugar. Pull it into a long cylinder. Fold the cylinder in half and bring the ends together, allowing the two halves to touch along their long sides and adhere to each other. Repeat two or three times. This will produce a rectangular piece of sugar, wide enough to fold into a tube.

3. Holding the piece of sugar at either end, fold it into a tube, allowing the long sides to adhere. From this point on, it is important to handle the sugar gently and touch the center of the piece as little as possible to retain the long tubes of air that you are building into the sugar. Fold the tube in half, as in step 2, and allow the long sides to adhere to each other. After each time a new time is created, cut the ends with scissors. This will help maintain an even tunnel structure with thinner walls. Repeat two or three times.

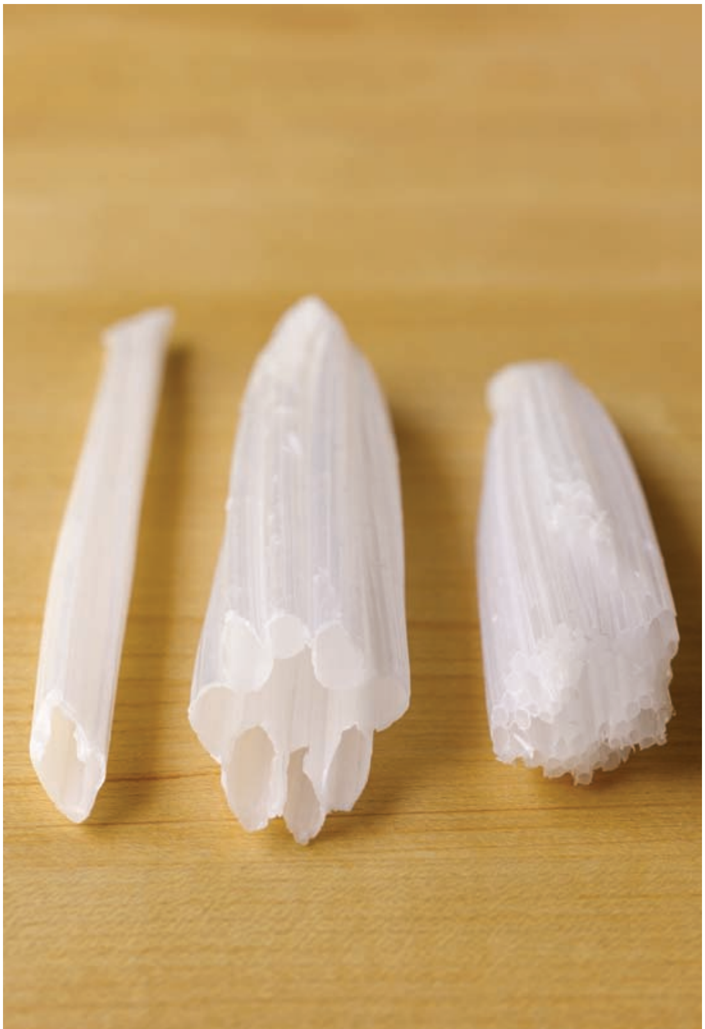
4. Repeat step 3 two more times, handling the sugar only by the ends as much as possible.

TOP LEFT: *Joining the long sides of the sugar.*

TOP RIGHT: *Forming the sugar into a tube.*

BELOW LEFT: *Continue to create additional straws.*

BELOW RIGHT: *The more the straw sugar is folded, the more straws it will have, and the smaller they will be.*



5. Pull the sugar into a long cylinder and bend and shape it as desired. Cool the sugar with a blow-dryer. In order to see the tunnel structure, the sugar must be broken when it is cold.

PULLED SUGAR

PULLED SUGAR BLOSSOMS

1. Warm a piece of white sugar in the microwave until it is hot and pliable but not so hot that it is fluid; check frequently to ensure that it does not become too hot in one place while still hard in another.

2. Place the sugar under a heat lamp. With both hands, grasp the sugar firmly at the opposite ends of the piece and pull your hands apart, pulling the sugar to form a thin edge. This thin edge is important because it is the thinness of the petals' edges that will give the flowers a delicate appearance.

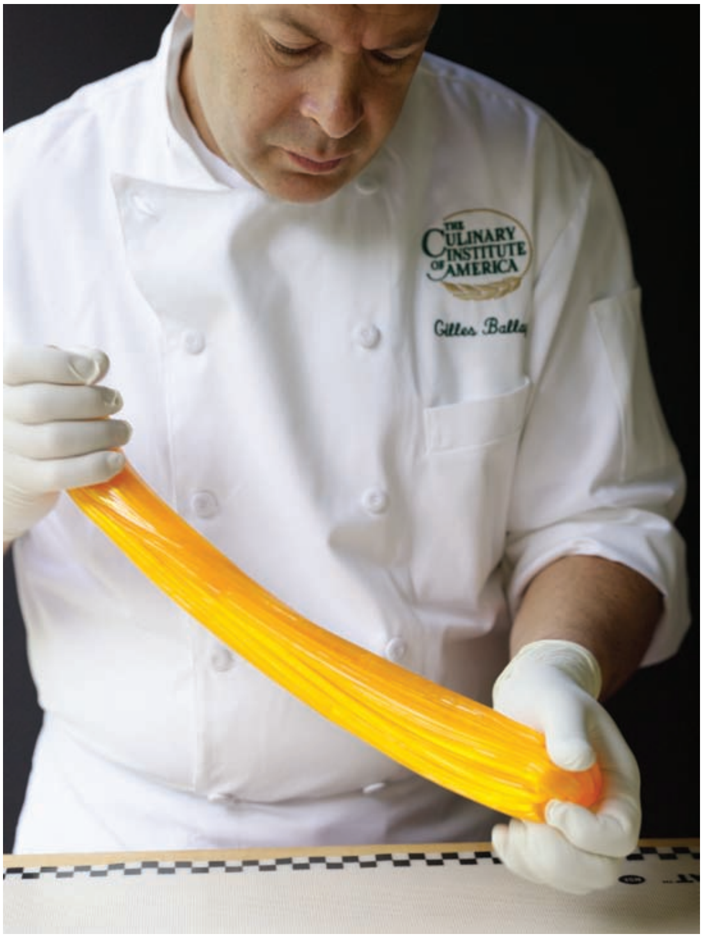
3. Place the piece of sugar on the edge of a sugar workbox with the thin pulled edge protruding over the edge. With the index finger and thumb of your dominant hand, grasp the thin edge of sugar and pull it down. With the index finger and thumb of your other hand, pin the sugar directly above your dominant thumb. With a short, sharp movement, pull your dominant hand away while pinning hard with your other. This will create a tapered, rounded petal. Repeat the process until you have five matching petals.

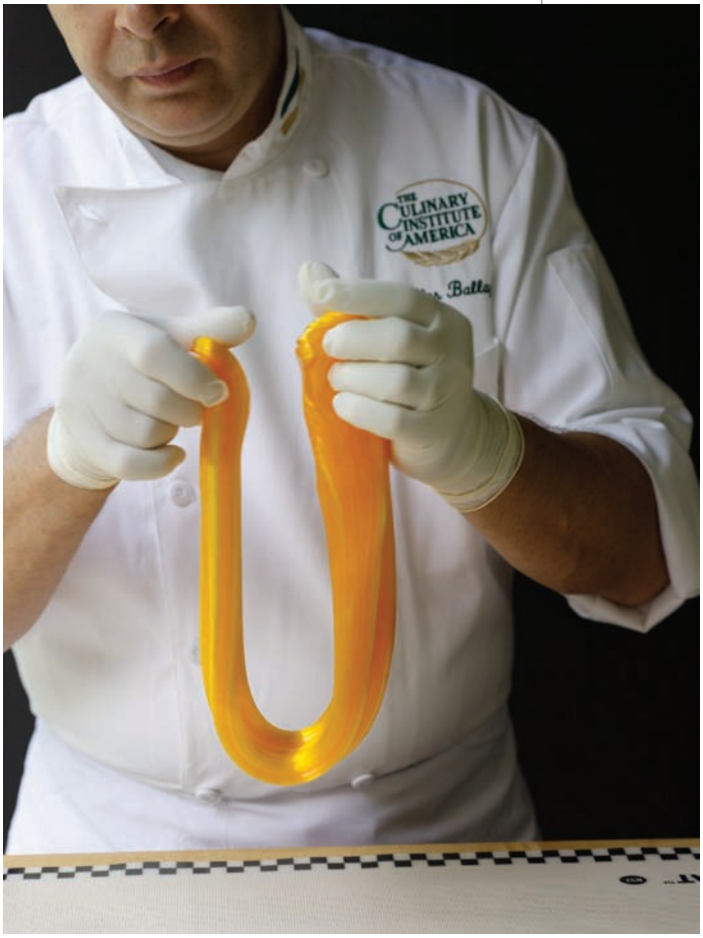
4. To assemble the flower, heat the tapered end of one petal over a flame. Place it next to another petal, overlapping the edges. Repeat with the remaining petals, overlapping them evenly. Heat the last petal until it is pliable enough that its edge can be slipped under the edge of the first petal. Cool the flower with a blow-dryer.

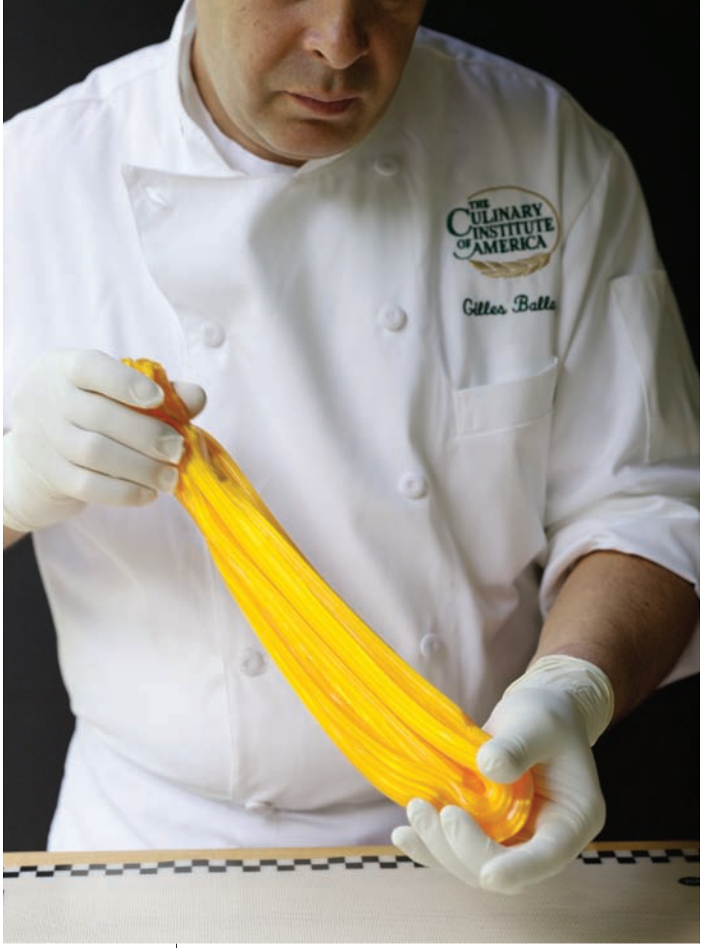
5. To make the stamen for the flower, warm a piece of light yellow or gold sugar in the microwave. Cut off a small piece of the sugar with scissors.

LEFT: *When the sugar is at the correct temperature, stretch it to elongate it.*

RIGHT: *Fold the sugar over onto itself.*



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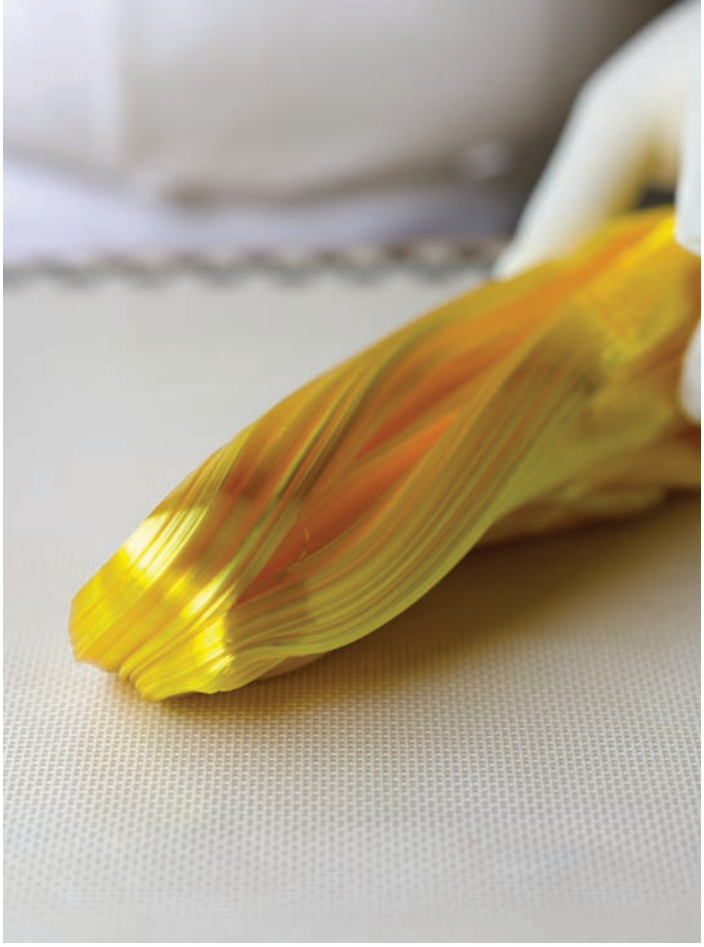


TOP LEFT: *Repeat the process until the sugar has the correct amount of air incorporated into it.*

TOP RIGHT: *The finished pulled sugar will be light in color and have a high level of shine.*

BOTTOM RIGHT: *Cutting the pulled sugar at an angle.*

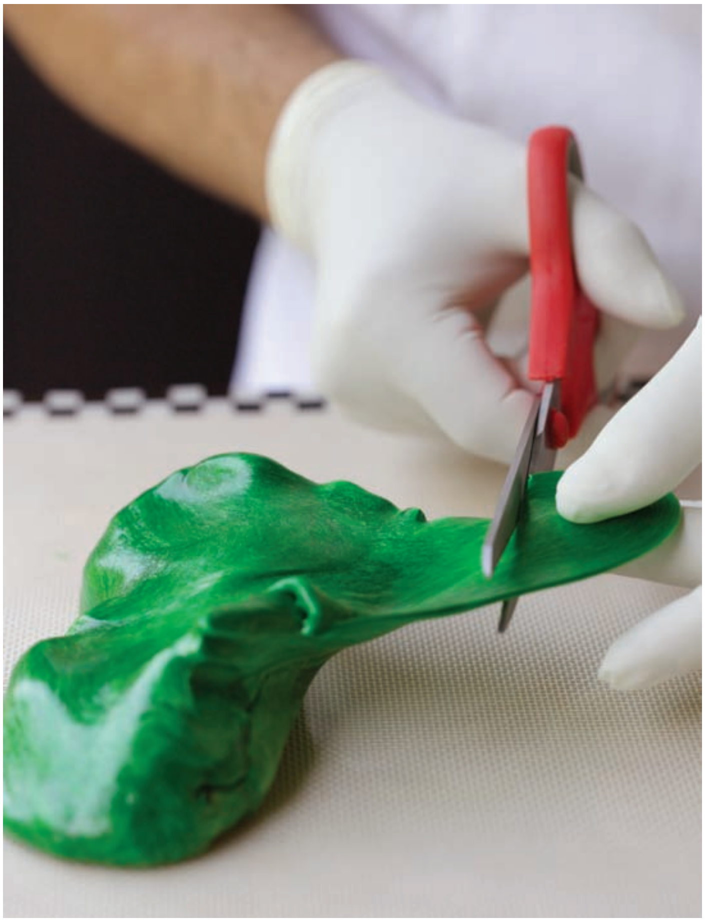
Pull the piece of sugar into a very thin strand. Working quickly, bring the ends of the strand together to create a large loop. Loop the strands twice more, and pin them together about ½ to ¾ in/1 to 2 cm below the tops of the loops. The sugar should still be warm enough so that the strands adhere to one another. Cut the loops open with scissors.

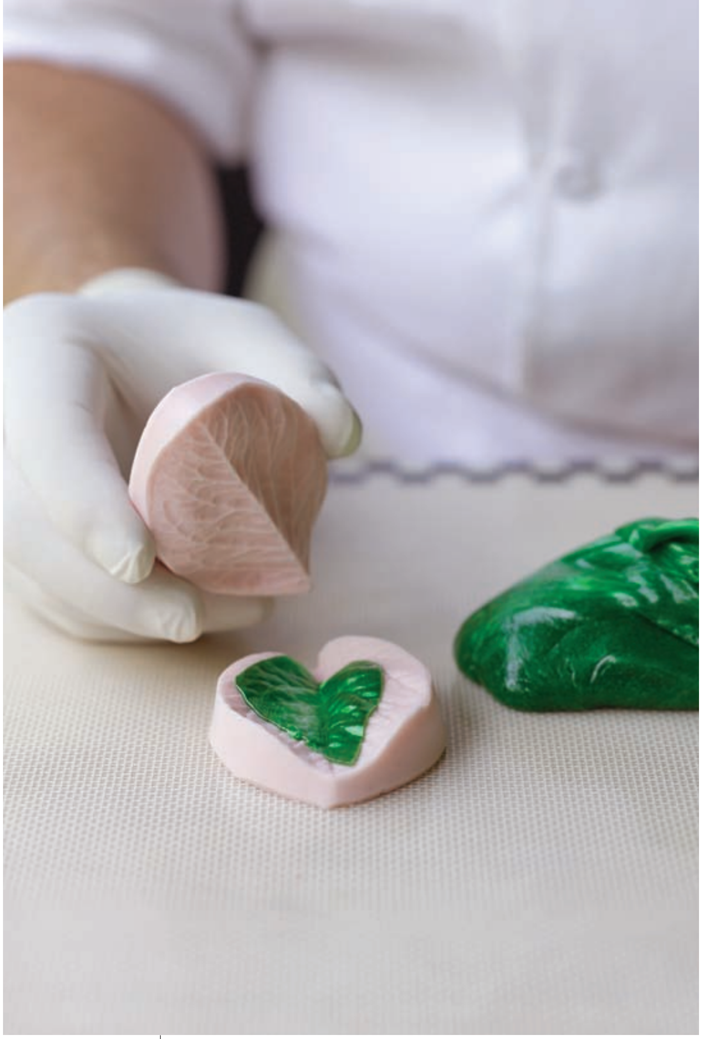
6. Place the blades of the scissors at the point where the strands are pinned together and use the scissors to gently break the sugar. Heat this pinned end in the Sterno flame and attach it to the center of the flower.

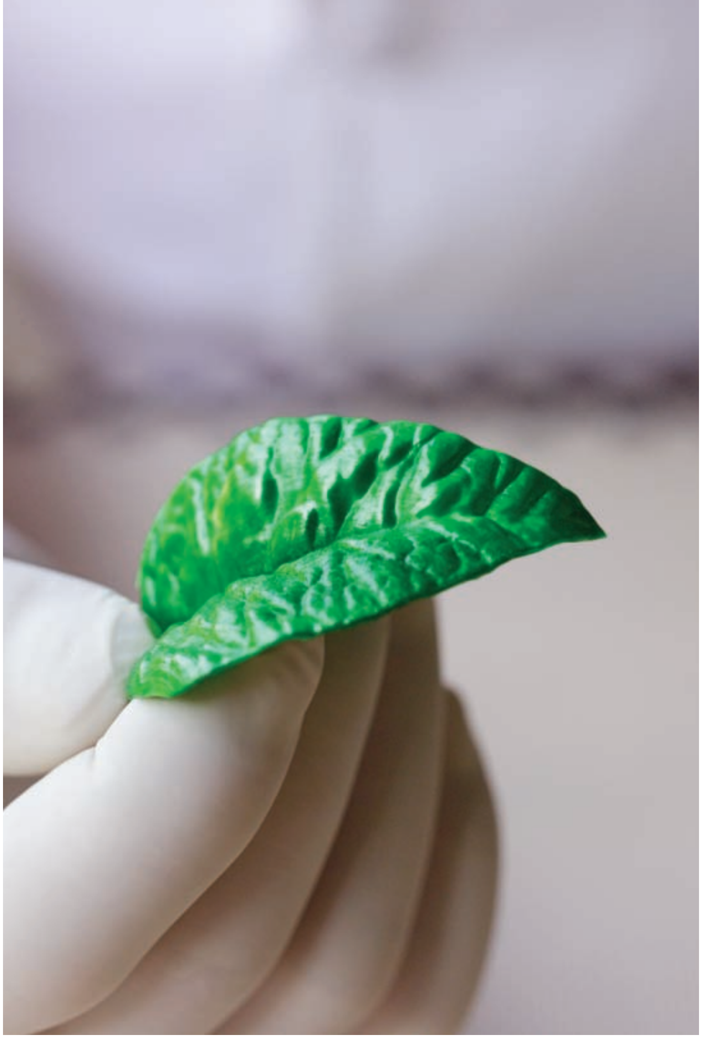
PULLED SUGAR LEAVES

1. Warm a piece of light green sugar in the microwave until it is hot and pliable but not so hot that it is fluid; check frequently to ensure that it does not become too hot in one place while still hard in another.

2. Place the sugar under a heat lamp. With both hands, grasp the sugar firmly at the opposite ends of the piece and pull your hands apart, pulling the sugar to form a thin edge. This thin edge is important because it is the thinness of the leaves' edges that will give them a delicate appearance.







LEFT: *Press the cut sugar into a silicone leaf mold.*

RIGHT: *The finished leaf will be shiny and have clearly marked veins.*

3. Place the piece of sugar on the edge of a sugar workbox with the thin pulled edge protruding over the edge. With the index finger and thumb of your nondominant hand, grasp the thin edge of sugar and pull it down and away. Cut the sugar strip at an angle with scissors to create a leaf shape.

4. Immediately place the sugar piece into the bottom half of a silicone leaf mold and press down on it firmly with the top of the mold. Remove the leaf from the mold and while it is still warm, pin the thicker end of the leaf slightly. Curve the leaf slightly to make it look more realistic. Cool under a blow-dryer. Repeat to make more leaves as needed.

5. To attach the leaves, heat the thicker end of each leaf over a flame. Press the heated end of the leaf to a base stem or petal and cool the joint with a blow-dryer.

PULLED SUGAR RIBBON

1. Warm the different colors of sugar in the microwave until they are hot and pliable but not so hot that they are fluid; check frequently to ensure that the sugar does not become too hot in one place while still hard in another.

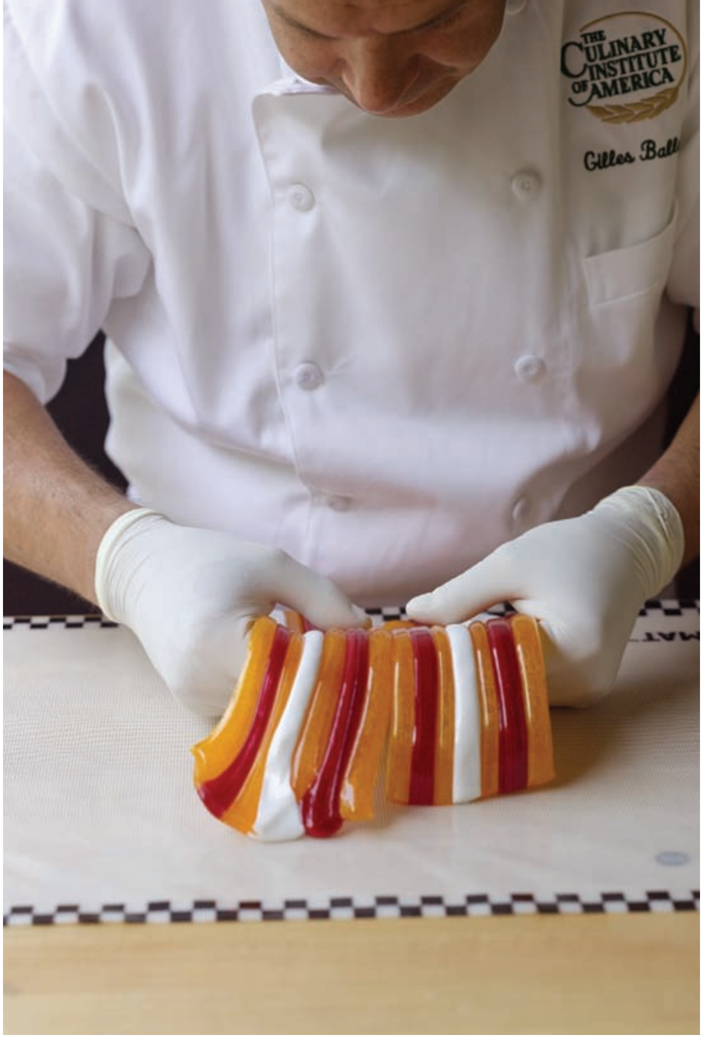
2. Place the pieces of sugar under a heat lamp. Cut off pieces of white sugar, each approximately ¾ by 3 in/2 by 8 cm. Cut off pieces of red sugar and yellow sugar of approximately the same size. Lay the pieces of sugar in a row in this order: yellow, red, white, yellow, red, yellow; place the pieces close together so that they adhere to one another. Stretch the pieces together so that they adhere and then cut the ribbon in half. Place the two sugar pieces side by side and adhere them together.

TOP LEFT: *Adhere warm pieces of sugar together to create a striped pattern.*

TOP RIGHT: *Use your hand to smooth out the sugar to begin to flatten it.*

BELOW LEFT: *Two people are needed to stretch the ribbon, holding both sides and slowly pulling it into a thin sheet.*

BELOW RIGHT: *Once the sugar has been pulled to the appropriate thinness, it can be cut into pieces of appropriate size.*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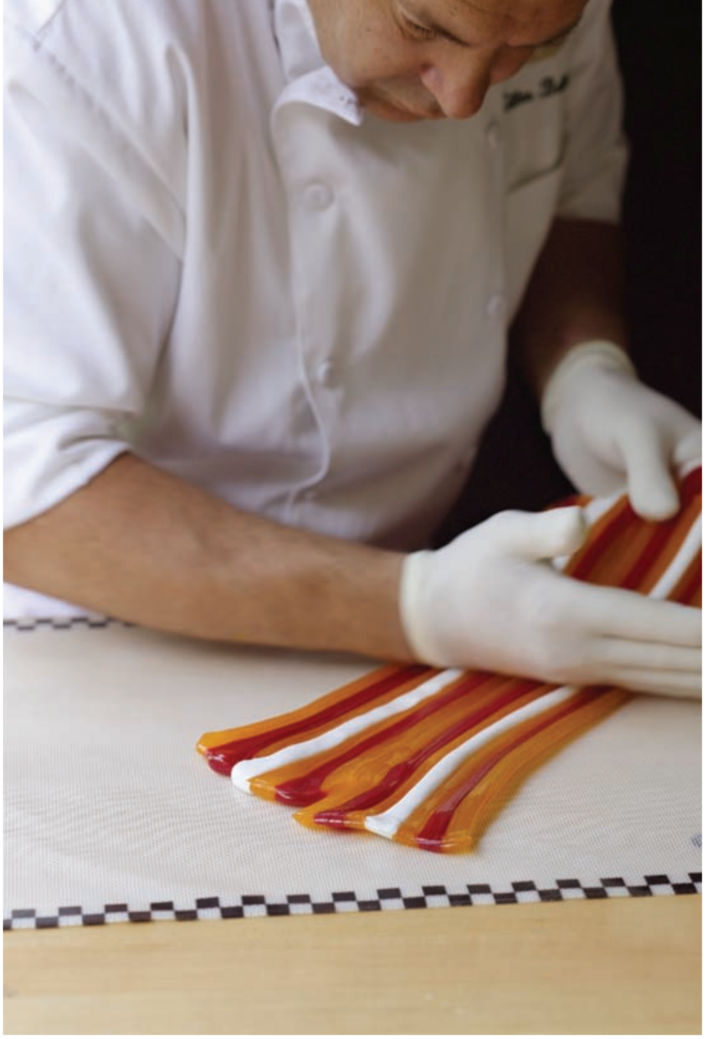
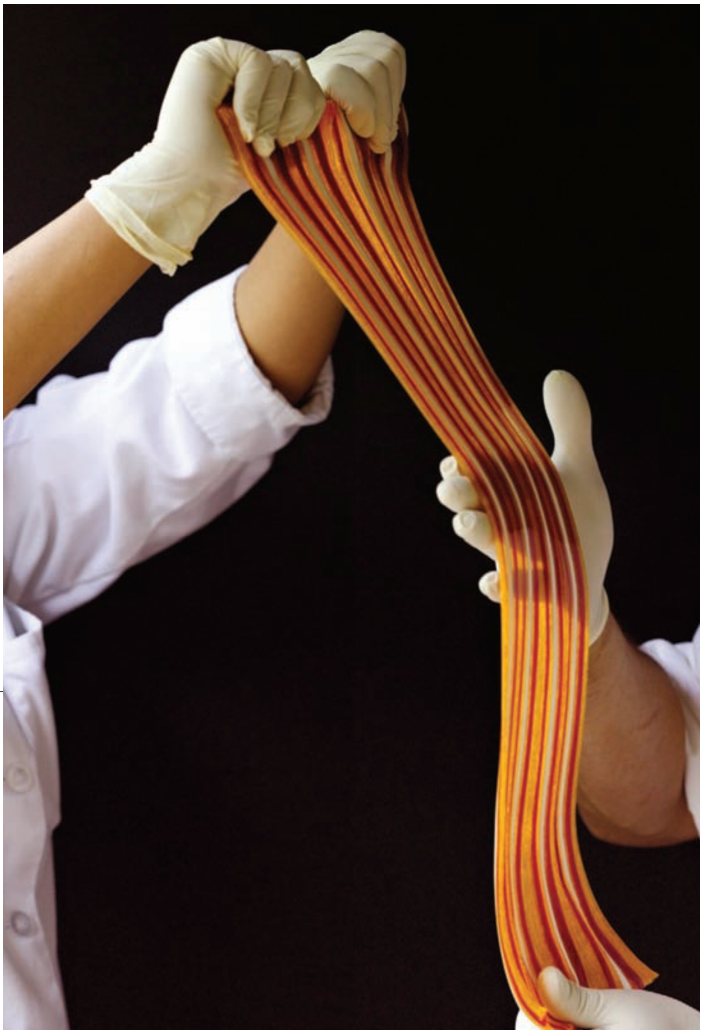
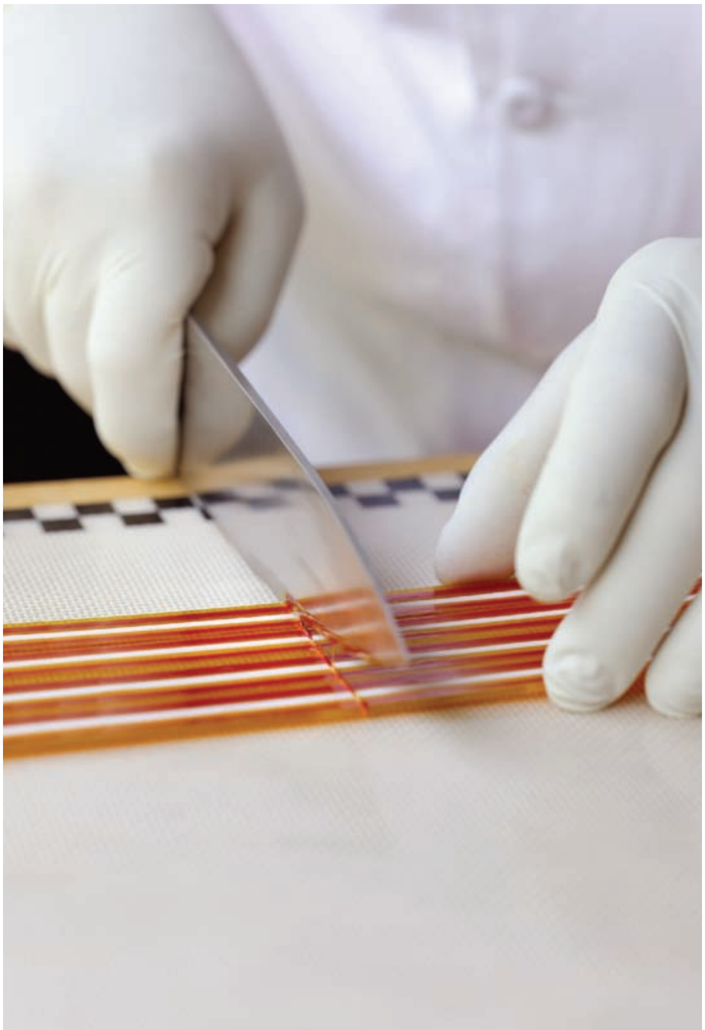






3. Pull the sugar band lengthwise until it is long enough to double back on itself. Bring the two ends of the sugar together and allow the long sides of the sugar to adhere to each other. Flatten the piece of sugar into a wide, thick ribbon.

4. Grasping one end of the ribbon in your non-dominant hand, begin pulling the ribbon out with your dominant hand. Apply pressure evenly, using your dominant hand to smooth out the length of the ribbon until you have created a very thin, delicate ribbon. Use two people once the ribbon becomes long.

5. When the ribbon is the desired length and thickness, trim the ends at an angle with scissors. If necessary, warm the ribbon slightly under the heat lamp to shape and curve it as desired.

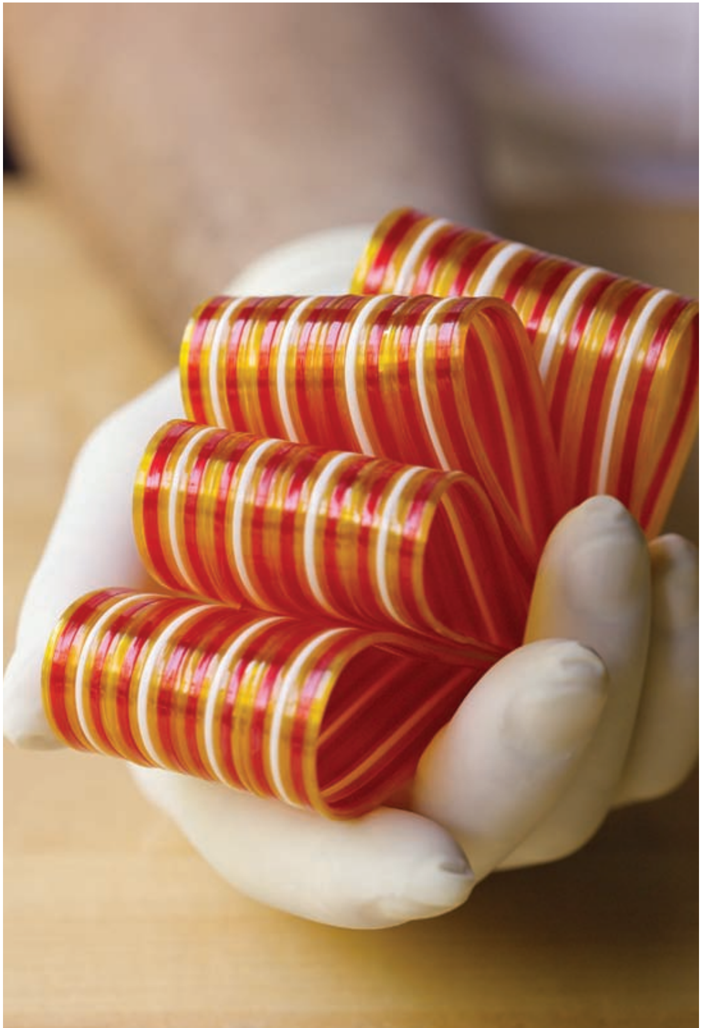
CHEF'S NOTE

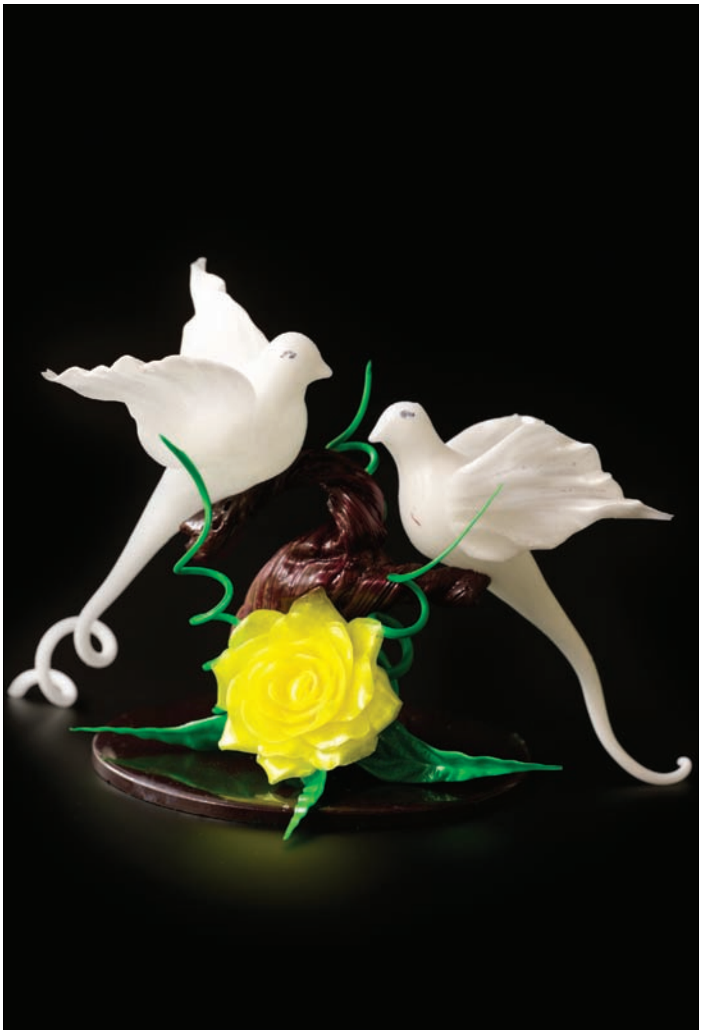
For ribbons of three or more colors, simply add more colors of sugar in the same manner. The colors can be arranged in any sequence, but ribbons tend to look prettier if white sugar is used to accent and separate some of the different colors.

TOP RIGHT: *Shape the ribbon working under a sugar lamp.*

BOTTOM LEFT: *The finished sugar ribbon.*

BOTTOM RIGHT: *Amenity-size sugar piece.*





WORKING WITH SUGAR PASTES

PASTILLAGE, GUM PASTE, and rolled fondant are all sugar pastes made with similar ingredients, but used for different purposes.

Pastillage is a pure white sugar paste that dries very hard. It is not sensitive to ambient humidity, making it possible to assemble pieces well in advance and hold them at room temperature. Pastillage should not be refrigerated. Sugar paste décor may be made in advance and stored almost indefinitely in controlled conditions of temperature and humidity. Gum paste is a medium often associated with beautiful flowers, and it is more elastic and may be rolled thinner and manipulated more easily without cracking. Most gum paste and pastillage décor elements should be dried overnight before use.

When working with sugar pastes, the work surface and all tools must be kept clean and free of any debris, as the white paste accentuates any impurities. Keep sugar paste covered with plastic wrap as much as possible as it is being worked with because it dries out quickly. Rolled fondant is used for covering cakes as well as creating décor elements. However, it takes longer to dry than pastillage or gum paste and will need more advance time for similar applications. It will develop a dry outer crust, so care should be taken to keep it covered when working.

PASTILLAGE LINK TWIST

1. Roll out the pastillage 1⁄16 in/0.15 cm or thinner on a nonstick surface.

2. Cut teardrop shapes from the pastillage.

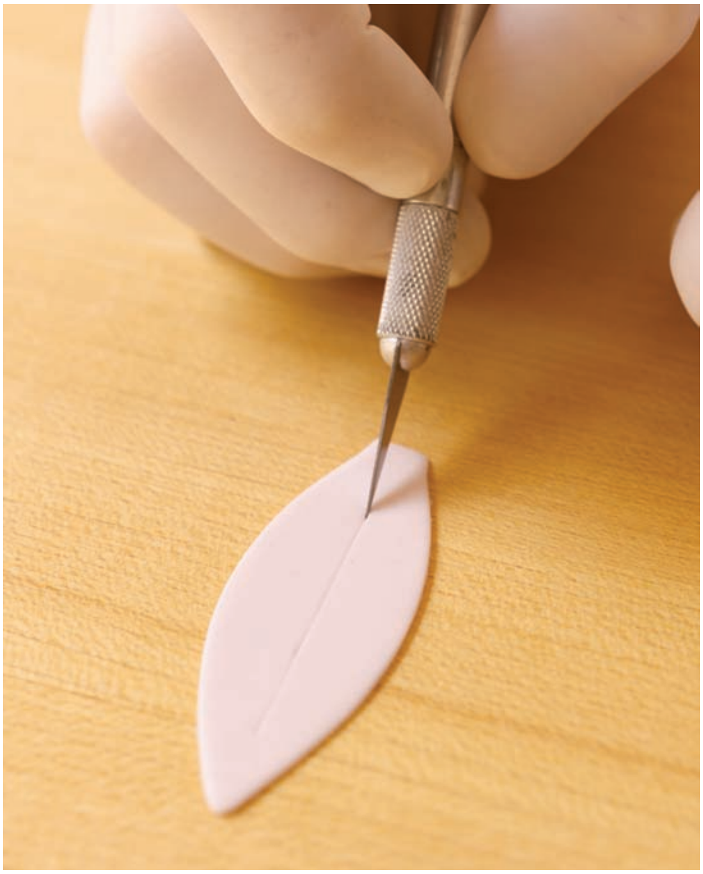
3. Carefully cut a slit down the center of each cut piece, leaving ¼ in/0.6 cm uncut at each end. Lift up one piece and flip the flat end in through the slit.

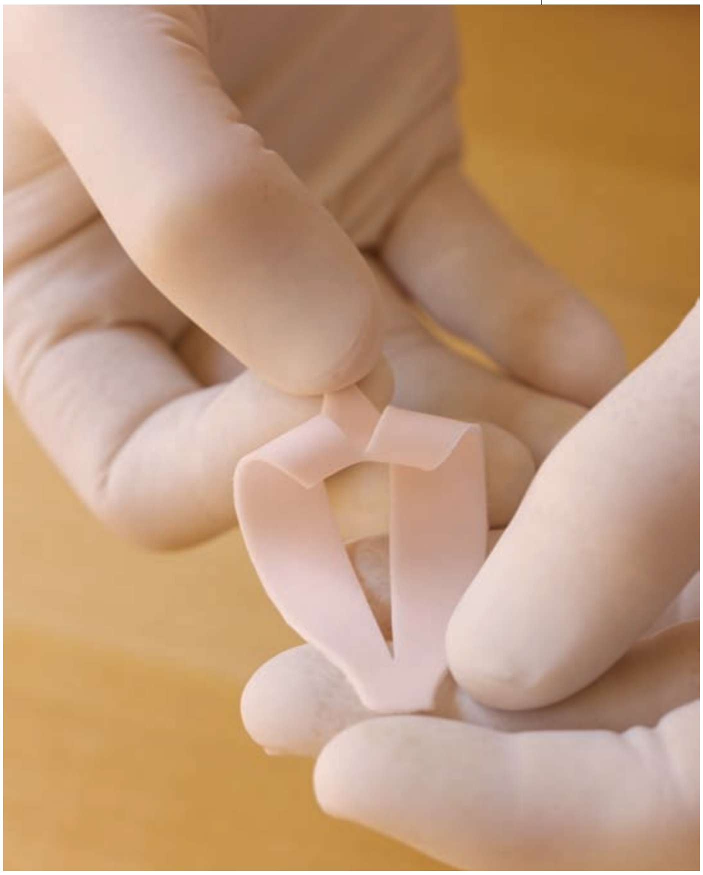
4. Lay the flat end of the pastillage piece in a terrine mold to shape and dry the piece. Repeat with the remaining cut pieces.

5. Allow to dry until stiff.

LEFT: *Cutting a slit in the middle of the pastillage piece*

RIGHT: *Twisting the pastillage piece through the cut*





GUM PASTE ROSE

1. Roll a piece of gum paste with a small rolling pin to ⅟₁₆ in/0.15 cm or thinner. Keep the gum paste covered with a piece of plastic wrap when you are not working with it. Have ready a prepared cone for the center of the flower with a piece of wire attached to the flat end.

2. Using 3 consecutive rose petal cutters, cut two petals, one with the smallest cutter and one with the largest cutter. Thin the edge of both petals and curl using a double-sided knitting needle.

3. Brush the prepared cone with Gum Glue (page 1028) and attach the largest petal to the cone, wrapping the curled edge around the cone. Insert the smaller petal into the curl of the first petal and make sure that the tops of both petals are at the same height. Wrap the petals around the cone.

4. For the next set of petals, cut three petals with the smallest cutter. Thin the edges of each one and curl with the knitting needle.

5. When placing this set of petals on the base, the uncurled side is inserted into the flower, leaving the curled side facing out. Insert the flat side between the first two petals and attach by brushing a small amount of gum glue on the bottom point of the petal.

6. The second petal goes under the first, and the third petal goes under the second. Each petal should span around one-third of the center. Hang the flower upside down while preparing the next set of petals.

7. Next cut a set of five petals using the medium cutter. Cut the petals, thin the edges with a large ball tool, and place the petals on plastic spoons to dry until they are able to hold their shape when upright.

8. Line up the first petal so that the edge of one of the existing petals points to the middle of the petal being added. The petals will be offset, which makes the rose look more realistic. Glue the petal in place using a small amount of gum glue at the pointed end of the petal. Place the remaining four petals around the base of the rose, tucking them under the previous petal and gluing them in place. Hang the flower upside down while preparing the next set of petals.

9. Cut the last set of five petals with the largest cutter. Thin the edges and curl both sides back. Place the petals on plastic spoons to dry with the curled edges facing down. Line up the first petal so that the center of the petal sits in between two petals from the previous set. Working upside down and holding the wire, attach the petals in a pinwheel around the wire, applying a small amount of gum flue to the base of each petal. Press only on the base of the cone to adhere the petals to the base.

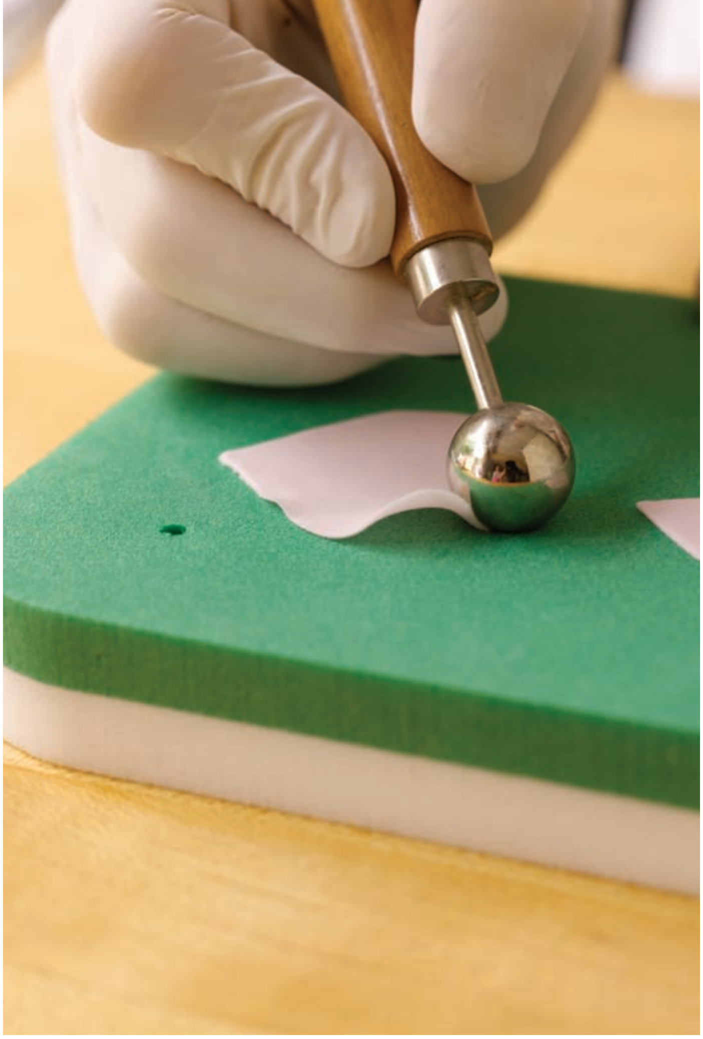
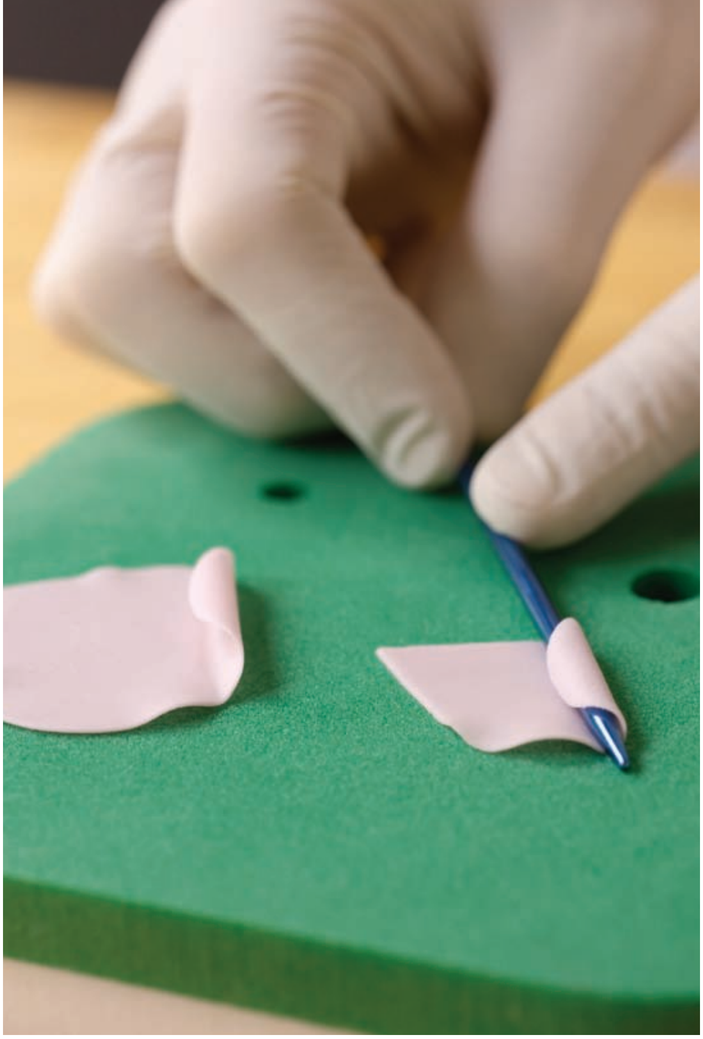
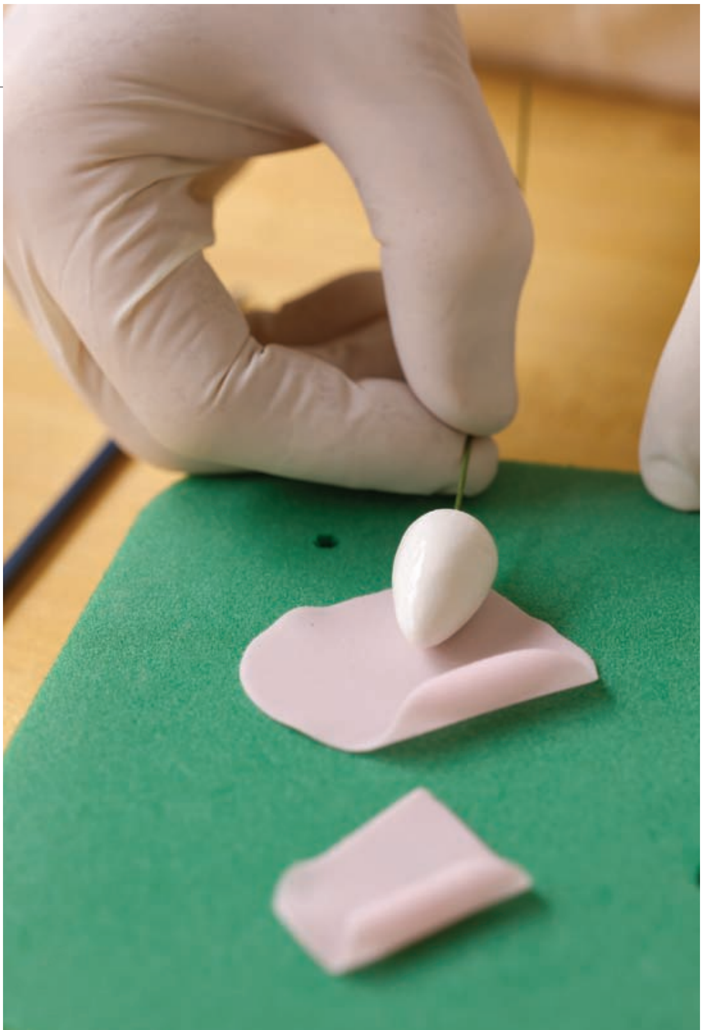
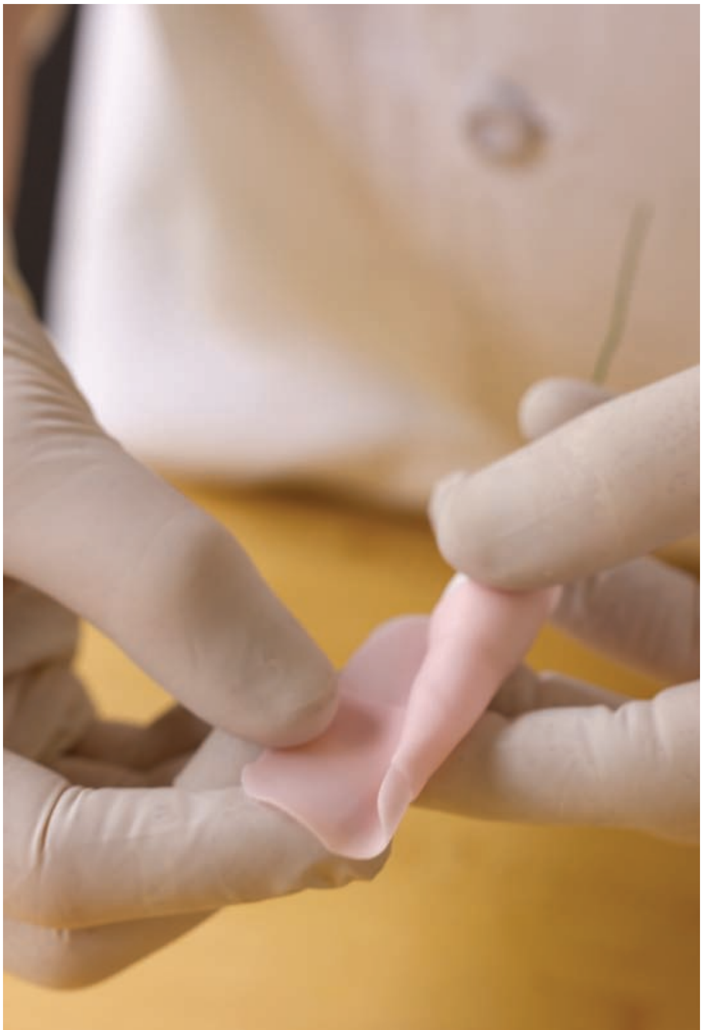
10. Hang the flower upside down to dry fully.

TOP LEFT: *Use the ball tool to create a thin edge from the cutout petal.*

TOP RIGHT: *Curl the edge to create the underside of the petals.*

BELOW LEFT: *Place the inner cone in the center of one of the petals.*

BELOW RIGHT: *Wrap the petal around the inner cone.*

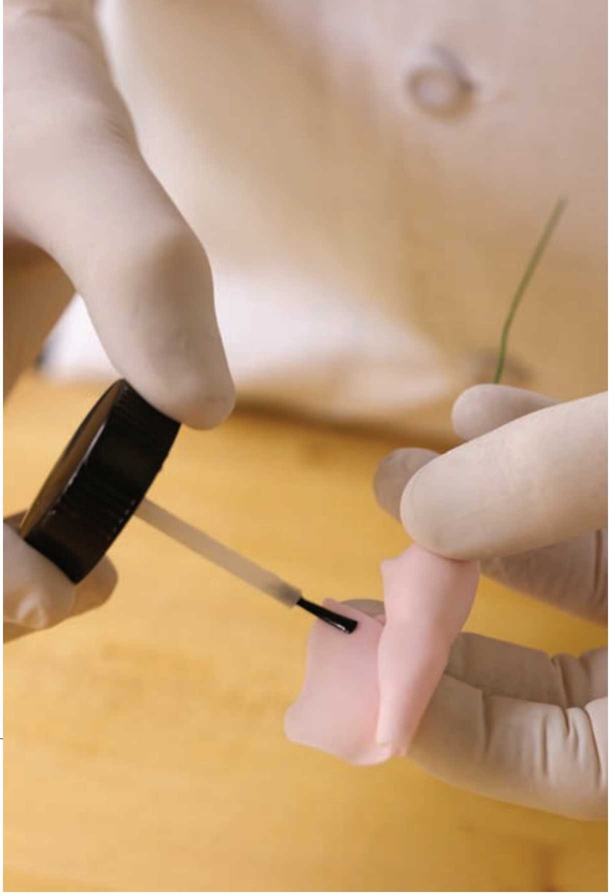





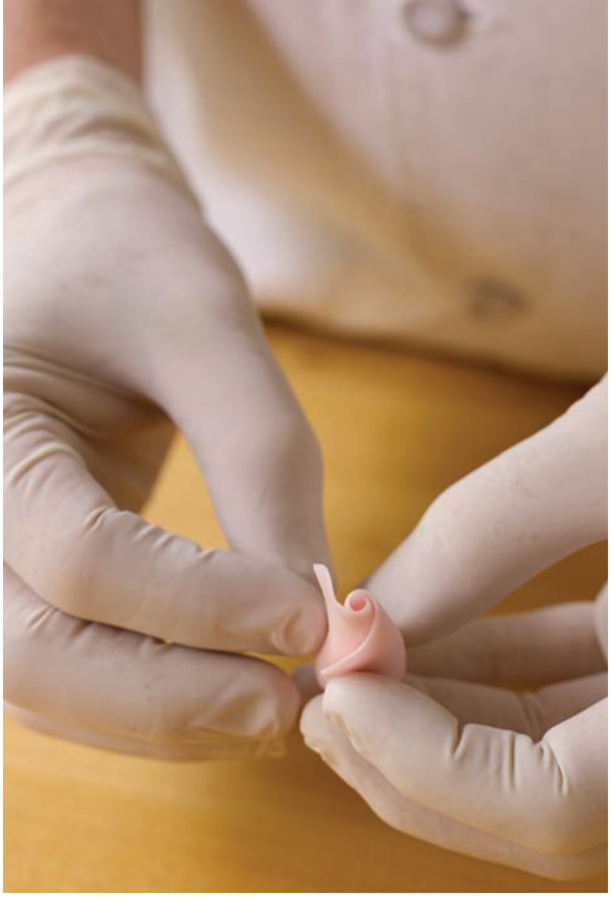
TOP LEFT: *Brush the inside of the first petal with Gum Glue (page 1028) and affix it.*

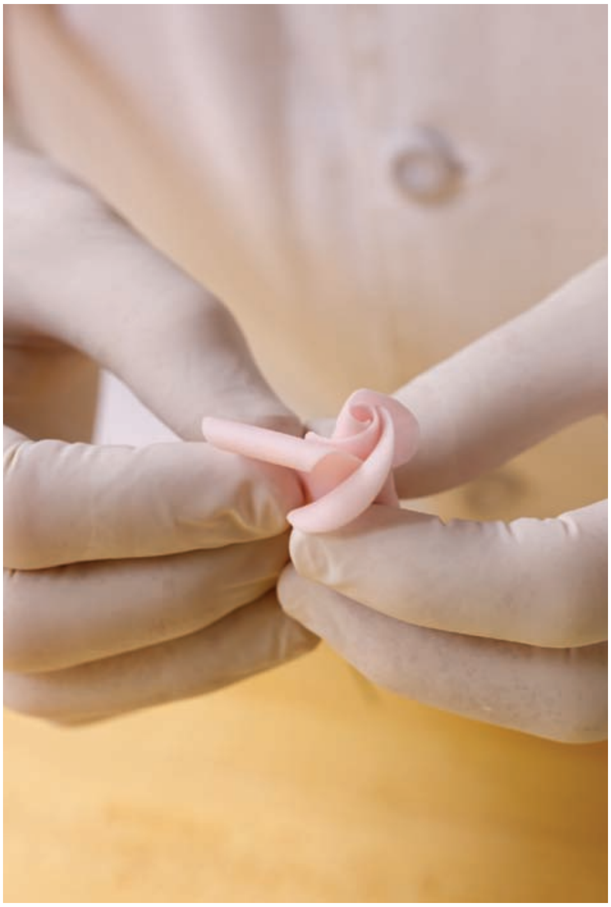
TOP RIGHT: *Fit the uncurled side of the second petal into the open side of the first petal.*

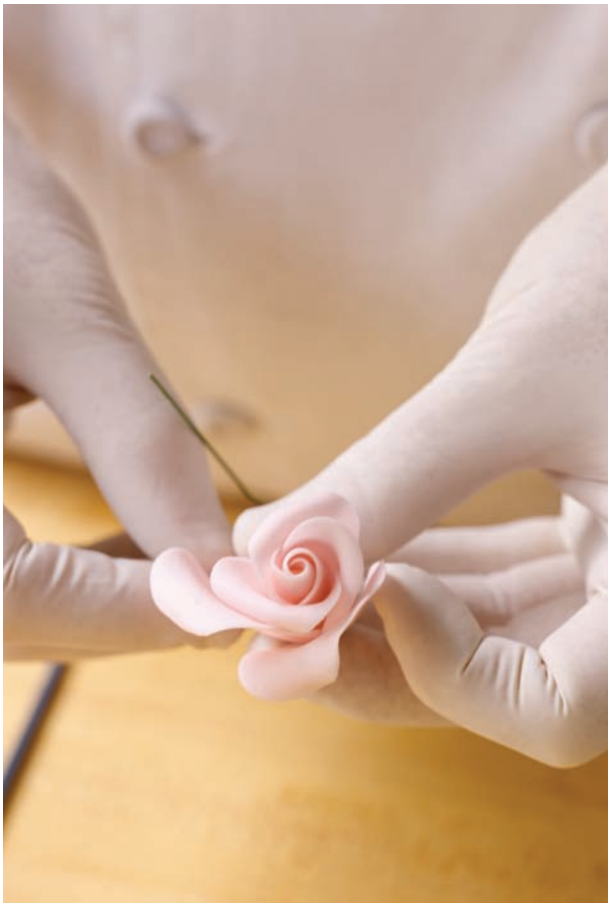
BELOW LEFT: *When adding petals to the rosebud, they should form a tight spiral.*

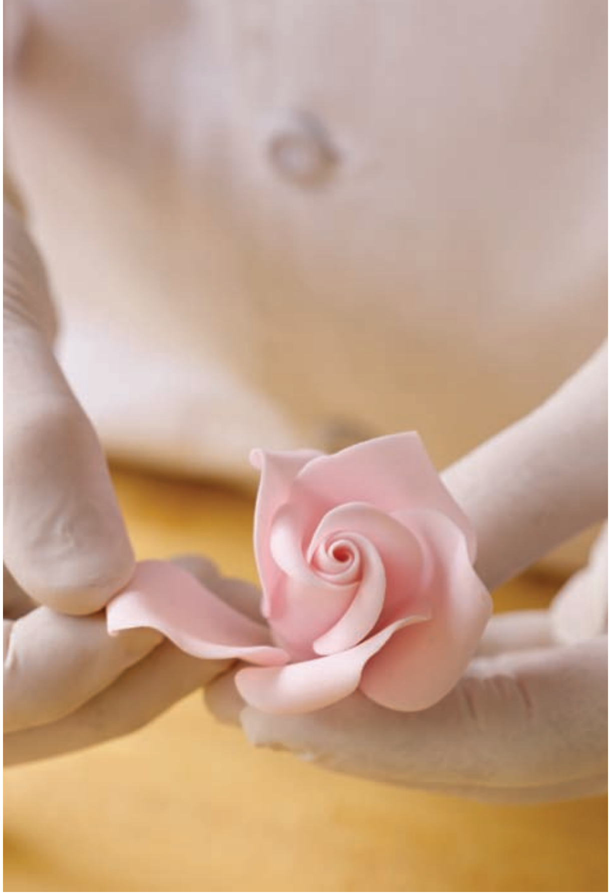
BELOW RIGHT: *Continue adding petals to the rosebud to form a rose.*

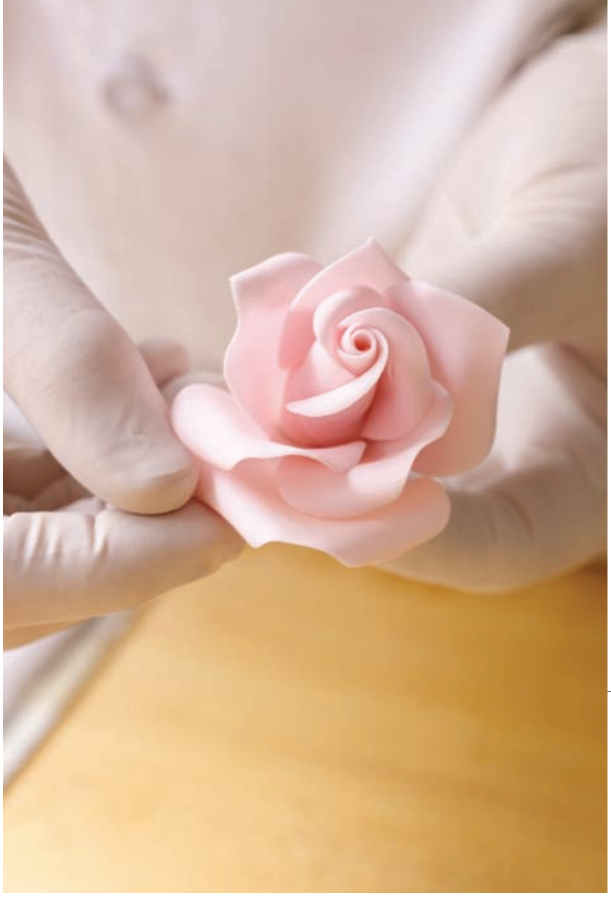


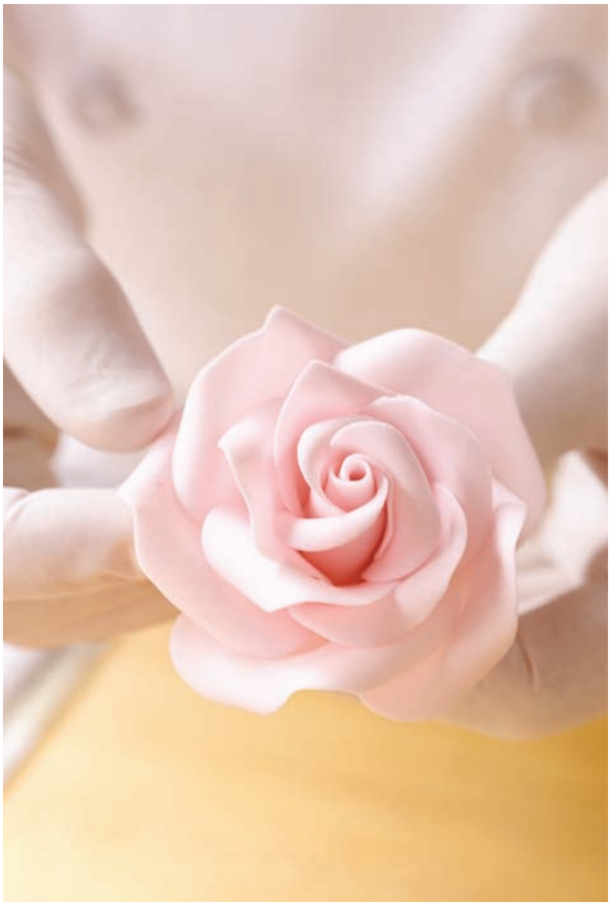


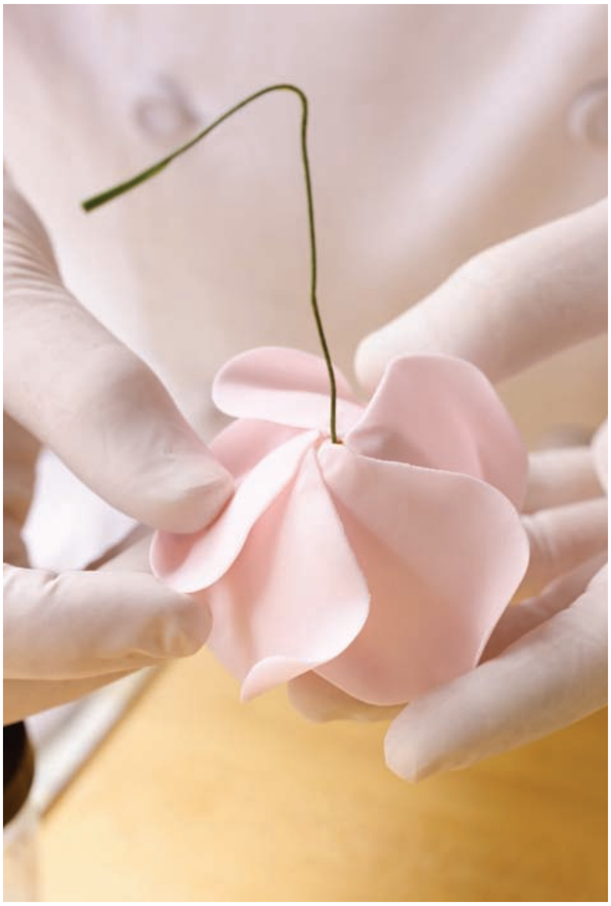












TOP LEFT: *As more petals are added, be mindful of leaving enough space so as not to damage the previous layers.*

TOP RIGHT: *Continue adding petals until the rose is of the desired size.*

BELOW LEFT: *The completed gum paste rose.*

BELOW RIGHT: *The underside of the completed gum paste rose.*

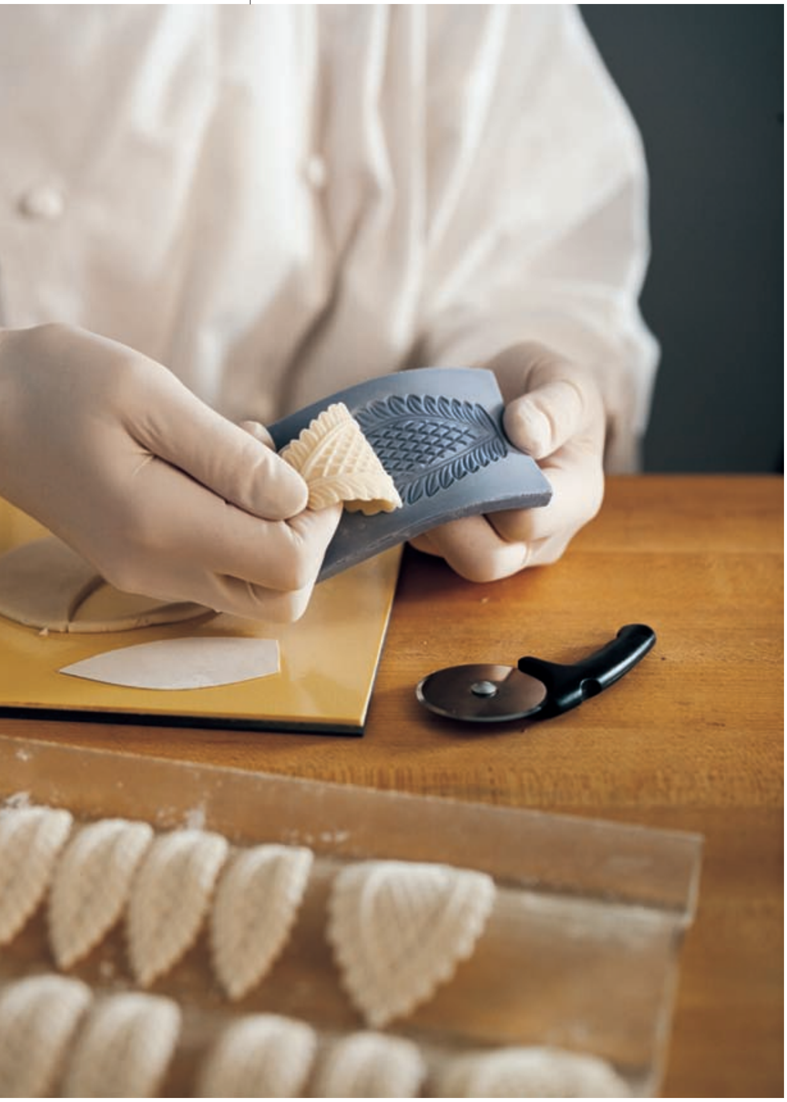
GUM PASTE MAGNOLIA

1. Roll gum paste into a ½ in/1¼ cm ball, and roll one edge until it is cone shaped. Insert a 22-guage hooked wire into the rounded edge of the cone and secure with hot glue.

2. Using sharp, pointed scissors, cut V-shaped snips into the sides of the pointed ball.

3. Roll out the remaining gum paste mixture ¹⁄₁₆ in/0.15 cm thick.

4. Using the templates in Appendix B (page 1082), cut three large and three small petals from the paste.



Unmolding a gum paste-pastillage leaf for the magnolia cake

5. Attach the small petals to the wire so that the pointed ball rests in the center (for detailed instructions, see “Marzipan Roses,” page 991). Attach the large petals so that each fills a space between two of the smaller petals.

MOLDING UEAVES USING A GUM PASTE–PASTILLAGE MIXTURE

1. Massage together equal parts of gum paste and pastillage. Roll out ¼ in/0.6 cm thick.

2. Place the desired mold over the rolled sugar paste and cut to the shape with a sharp paring knife, using the mold as a template.

3. Place the cut shape in the mold and press it down firmly with the top of the mold. Carefully peel the molded shape away from the mold and drape it over a curved object, such as a rolling pin, or place on a flat work surface. Allow to dry for approximately 1 hour.

4. Shift the shape slightly to ensure that it does not stick to the rolling pin or other surface. Allow to dry completely.

FONDANT SWAG

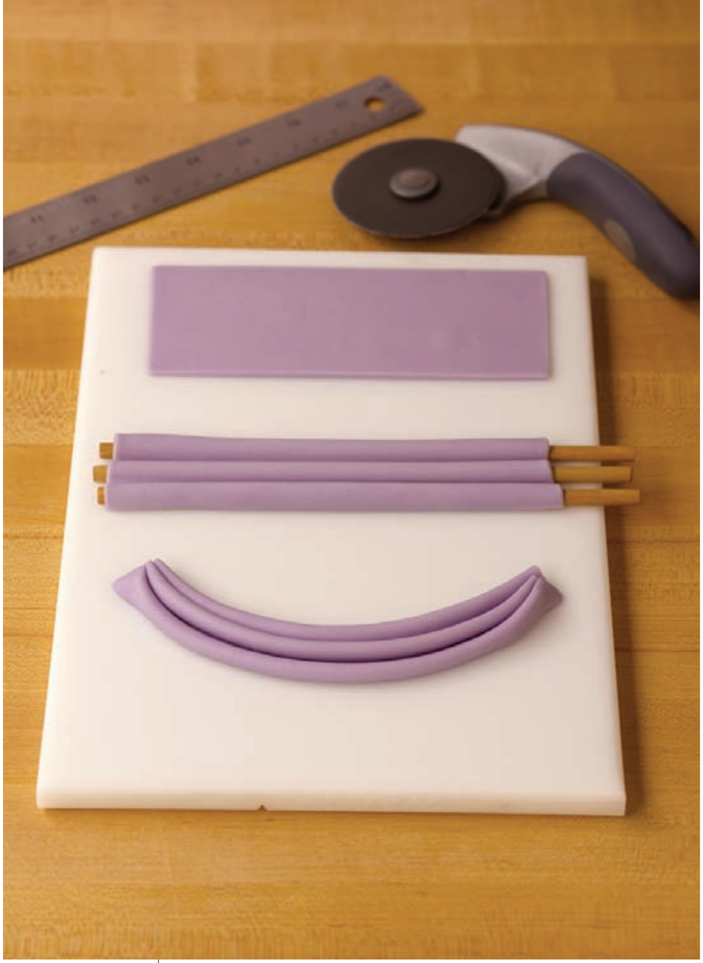
1. Roll a strip of fondant 6 by 3 in/15 by 20 cm and ⅛ in/0.3 cm thick on a lightly greased surface.

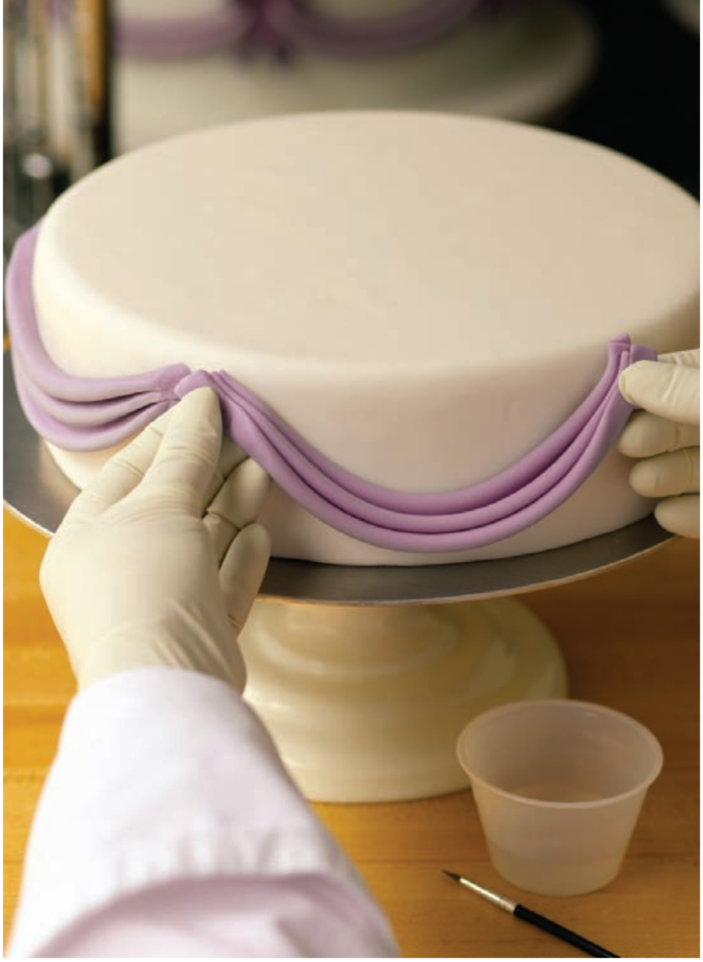
2. Lay the fondant over 3¼-in/8.25-cm dowels, and coax the fondant down and over each dowel and compress the dowels together. The edges of the fondant should be downward facing. Trim any excess fondant.

3. Remove the dowels and draw up the ends to create a swag.

4. Pinch the ends together and trim if necessary.

5. Dampen the ends with water to make them tacky and gently press them onto a fondant-iced cake.





TOP LEFT: *Roll the fondant into a rectangle of the desired size. Lay the fondant over dowels, and roll the fondant down and over each dowel. Remove the dowels and draw up the ends to create a swag. Pinch the ends together and trim if necessary.*

TOP RIGHT: *Dampen the ends with water to make them tacky and gently press them onto a fondant-iced cake.*

BOTTOM RIGHT: *Bow technique*

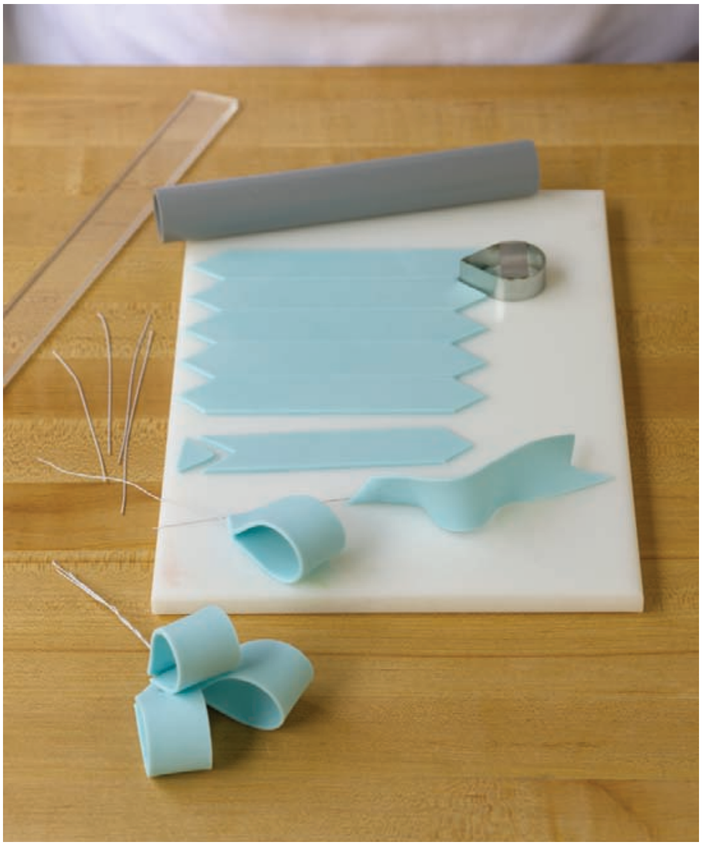
FONDANT BOW

1. Dust the work surface with cornstarch or confectioners' sugar. Roll out a portion of the fondant or gum paste to ⅛ in/0.3 cm thick. Using a ruler, measure a rectangle ¾ by 5 in/2 by 13 cm. Cut out the rectangle with a pizza cutter or a knife, ensuring the edges are straight.

2. Dab a small amount of water at each end of the strip. Place a piece of floral wire at the base of one end of the strip. Fold the strip in half, using your fingers to create a large loop. Press down gently to secure the two ends together.

3. Dust the inside of the loop with a cornstarch pouch. Fill the loop with a wad of cotton balls and place on the parchment-lined sheet tray. Repeat this process to make the second loop for the bow.

4. Make six to seven loops for a large bow and five for a smaller bow.



5. Allow the loops to dry for a minimum of 24 hours. Once dry, remove the cotton balls supporting the loop. If some of the cotton strands are stuck to the bow, remove them with a pair of tweezers.

6. To make the ribbons, roll out a piece of fondant or gum paste to ⅛ in/0.3 cm thick. Cut the piece of fondant into one rectangle ¾ by 8 in/2 by 20 cm. Using a knife or the cutter, cut out a triangle from both ends of the strip, making V-shaped notches or points. Dip the end of a piece of wire into some water and insert the wire into the base of the ribbon. Use an egg carton to shape the ribbon and let it dry for 24 hours. Repeat this process to make as many ribbons as you would like.

7. Once the components are dry, use floral tape to secure the loops and the ribbons together. Do not shape any of the pieces by pulling on the fondant because they might break. Adjust the wire and this will automatically move the loop or ribbon.

8. Cut off any excess wire and insert the wire into the cake.

CHEF'S NOTE

This method may be used with pastillage as well.

DOGWOOD FLOWERS

1. Roll out just enough fondant or gum paste to make small batches of flowers at a time. Dust the work surface with cornstarch or confectioners' sugar and roll out a piece of gum paste or fondant to ⅛ in/0.3 cm thick. Keep the piece of sugar paste covered with plastic wrap.

2. Use a dogwood cutter to cut out a flower from the sugar paste. Dust a dogwood mold with cornstarch or confectioners' sugar. Place the flower in the base of the mold and place the other half on top. Press down lightly and remove the flower.

3. Use an egg carton that has been dusted with cornstarch or confectioners' sugar to shape the flower. Repeat this process with other flowers and let them dry for 24 hours.

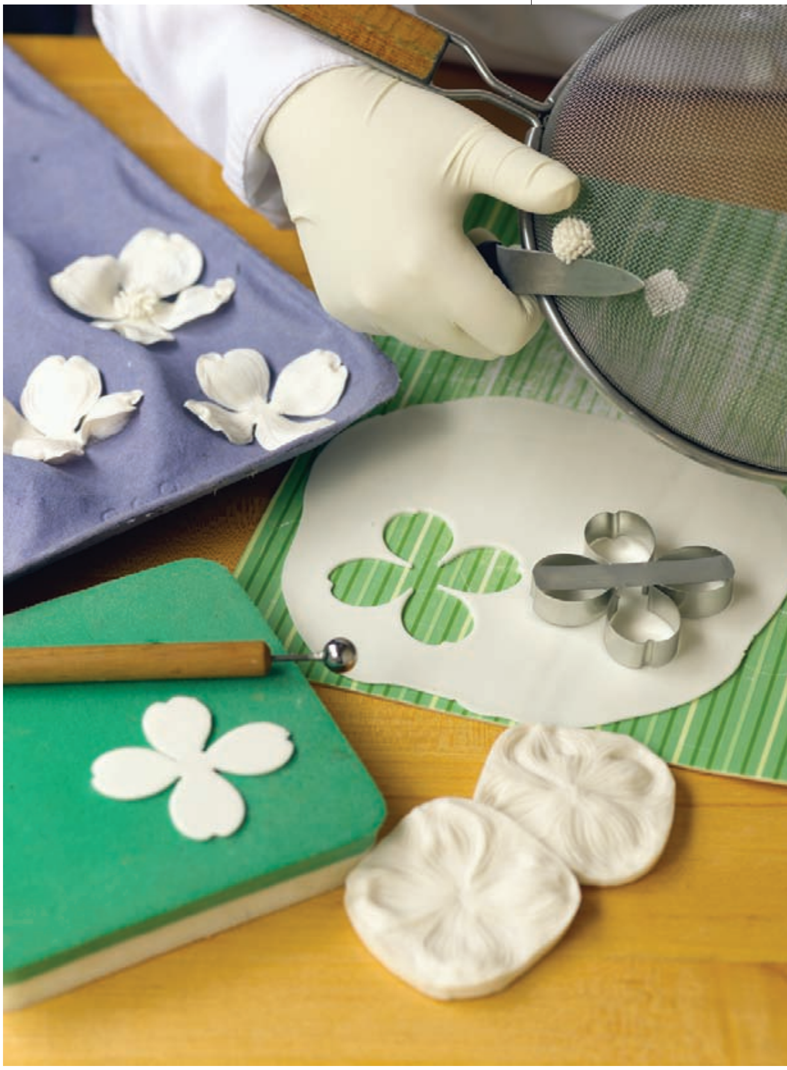
4. Once the flowers are dry, pipe several small dots with the pale yellow royal icing in the center of each flower.

5. To make the flowers appear more realistic, use pale green powdered food coloring to dust around the centers of each flower. Next, accent the edges of the four petals of each flower with pink or red powdered food coloring.

CHEF'S NOTE

The dogwood cutters can be exchanged for other types of flowers, such as daisies and hydrangeas; the techniques remain the same.

Making dogwood flowers



HYDRANGEA FLOWERS

1. Roll a small piece of fondant into a seamless ball about ½ in/1 cm in diameter.

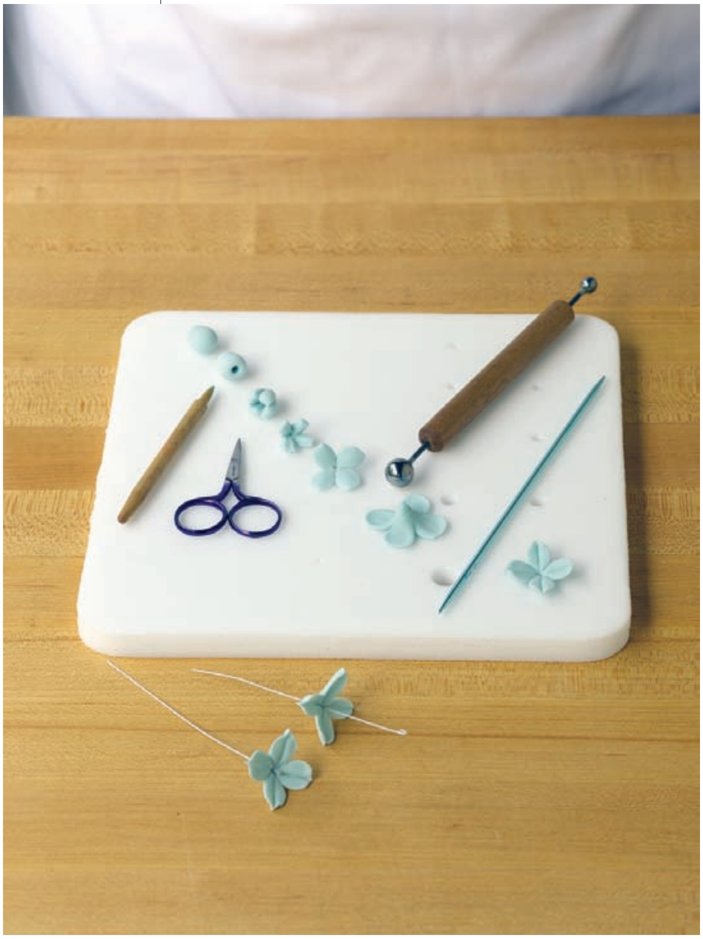
2. Taper one end so it becomes cone-shaped.

3. With an auger tool, poke a hole in the center of the wide end. Snip four petals with a scissor. Pinch each petal between your fingers to flatten.

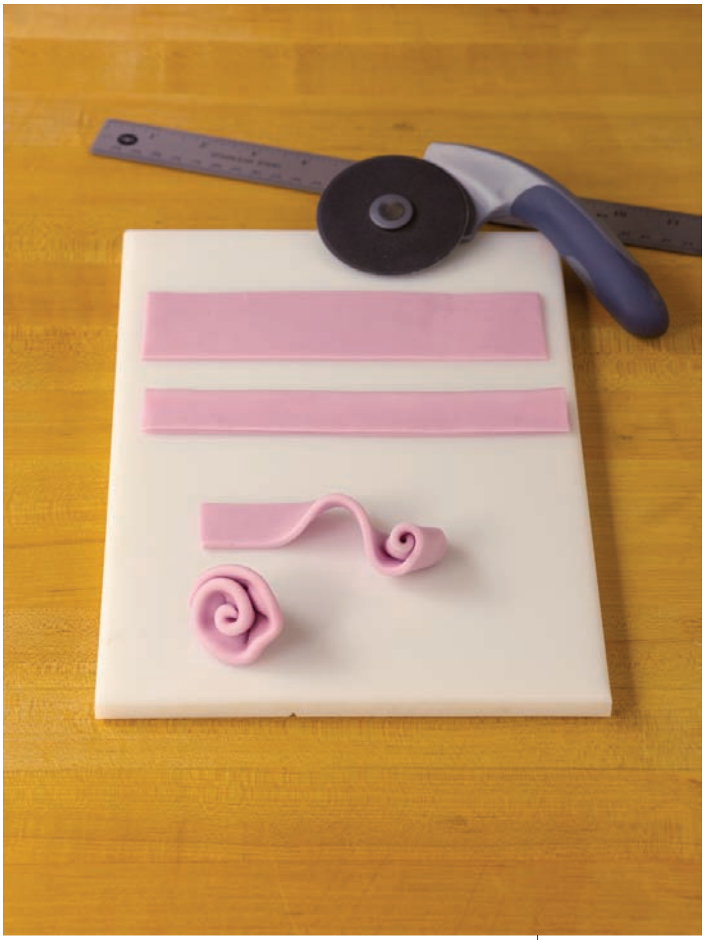
4. Place the flower upside down on the mat and thin petals with a ball tool.

5. Turn the flower right side up and put in one of the holes of the flower mat. Using gentle pressure, draw a knitting needle across each petal from end to center, creating a crease and curling the petal slightly.

6. Make a loop in the end of a #000 gauge wire, dip it in gum glue, and insert it through the flower until it is no longer visible.



Progression of steps and tools for making hydrangea flowers.



Ribbon rose technique

FONDANT RIBBON ROSE

1. Roll out a strip of fondant 2 by 6 in/5 by 15 cm and ⅛ in/0.3 cm thick on a lightly greased surface.

2. Fold in half, forming a strip 1 by 6 in/3 by 15 cm.

3. Twist one end of the strip down to form the bud.

4. Begin wrapping the fondant strip around the bud.

5. Continue wrapping and gently squeeze the bottom to open and shape the flower.

EMBELLISHING

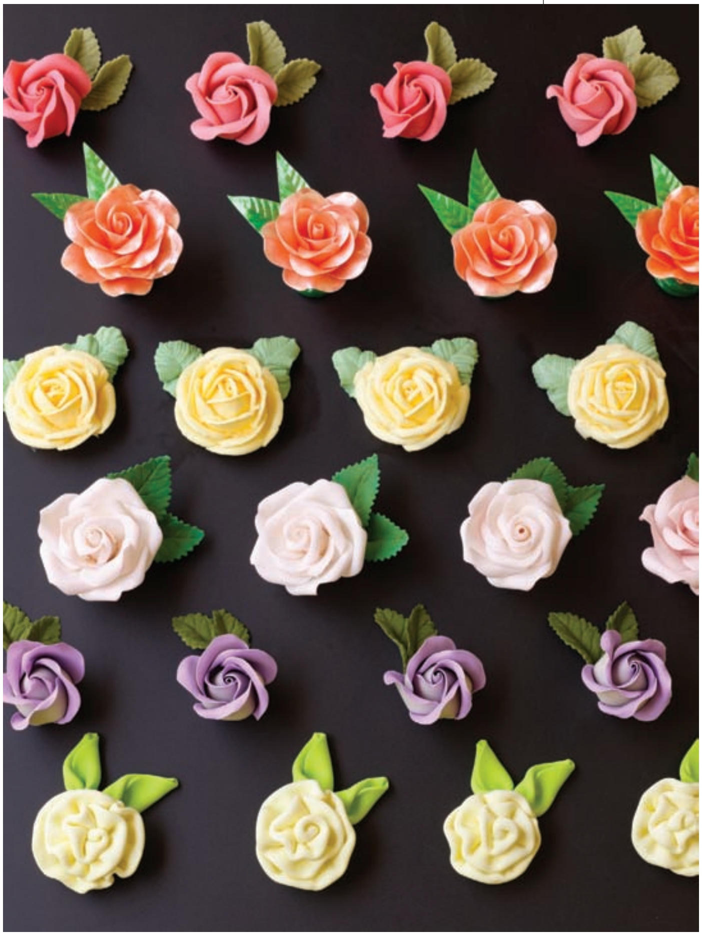
1. Set up a coloring station on parchment paper to include powdered food color, various brushes, and tools.

2. Pick up a bit of color on a soft dry brush and tap out excess onto the parchment.

3. Gently brush color onto the flowers, being careful to add color a little at a time.

FROM TOP TO BOTTOM: *Marzipan rose, pulled sugar rose, buttercream rose, gum paste rose, modeling chocolate rose, fondant rose.*

Embellishing a finished hydrangea flower with luster dust.



BUTTERCREAM FOR DÉCOR

MAKES 10 LB/4.54 KG

INGREDIENT	U.S.	METRIC
High-ratio shortening	2 lb 8 oz	1.13 kg
Confectioners' sugar, 6X, sifted	2 lb 8 oz	1.13 kg
Swiss Meringue Buttercream (page 479), whipped	5 lb	2.27 kg

Cream the shortening and sugar to full volume. Add the buttercream and bring back to full volume. Store in the refrigerator until needed.

CHOCOLATE DOME

MAKES 1 DOME

INGREDIENT	U.S.	METRIC
Bittersweet chocolate, melted, tempered	As needed	As needed

1. Pour the chocolate into a 2¾-in/7-cm polycarbonate dome mold. Allow the chocolate to set for approximately 30 seconds, just until some of the chocolate begins to set.

2. Invert the mold over the bowl of chocolate to allow most of the chocolate to spill out, leaving a hollow shell dome. Once the chocolate hanging from the mold has begun to set, use a tool that is wider than the opening of the mold to scrape away any excess chocolate.

3. Allow the chocolate to set completely, and gently unmold.

4. Store in an airtight container. Use as desired.

CHOCOLATE PIPING GEL

MAKES 11 LB/4.99 KG

INGREDIENT	U.S.	METRIC
Dark chocolate, 64%, finely chopped	1 lb	450 g
Piping gel	10 lb	4.54 kg

Warm the chocolate to 130°F/54°C and add one-third of the gel. Stir gently using a whisk until totally blended. Add the rest of the gel and stir thoroughly. Strain through cheesecloth and keep in airtight containers.

ROYAL ICING

MAKES 2 LB/910 G

INGREDIENT	U.S.	METRIC
Confectioners' sugar	2 lb	910 g
Egg whites	5½ to 6 oz	160 to 170 g
Cream of tartar	¼ tsp	1.25 mL

1. Put the confectioners' sugar, egg whites, and cream of tartar into the bowl of an electric mixer fitted with the paddle attachment and mix to combine.

2. Mix for 10 minutes on low speed, until it reaches an almost-stiff peak.

3. Transfer to a glass container and press a moist towel directly on the surface of the icing. Store under refrigeration, covered tightly with plastic wrap.

CHEF'S NOTES

If the icing becomes runny, it can be rewhipped each day before use.

Sugar or egg whites can be added to adjust the consistency as necessary.

DARK MODELING CHOCOLATE

MAKES 1 LB 6 OZ/620 G

INGREDIENT	U.S.	METRIC
Dark chocolate, 64%, chopped	1 lb	450 g
Light corn syrup	6¼ oz	180 g
Cocoa powder	As needed	As needed

1. Melt the chocolate to 90°F/32°C. Warm the corn syrup to the same temperature and blend into the chocolate until incorporated. Avoid overmixing.

2. Spread onto a parchment-lined sheet pan, cover, and refrigerate for 1 hour.

3. Store at room temperature overnight.

4. Form into logs and wrap with plastic wrap. Refrigerate until needed.

5. To soften, cut into 2-in/5-cm strips. Slice into ⅛-in/0.3-cm pieces. Knead on a clean work surface until workable, dusting with cocoa powder if necessary.

CHEF'S NOTES

Use a clean rolling pin and cocoa powder to roll out dark modeling chocolate.

Modeling chocolate is used for items like flowers and fruit. It is edible and can be used for dessert containers. It can also be used to create parts of a centerpiece that would be difficult to carve or shape out of couverture, such as hands, faces, and the like.

WHITE MODELING CHOCOLATE

MAKES 5 LB 8 OZ/2.49 KG

INGREDIENT	U.S.	METRIC
White chocolate, chopped	4 lb	1.81 kg
Light corn syrup	1 lb 8 oz	680 g
Confectioners' sugar	As needed	As needed

1. Melt the chocolate to between 85° and 90°F/29 to 32°C. Bring the corn syrup to approximately the same temperature, 90°F/32°C.

2. Add the corn syrup to the chocolate. Blend just until incorporated. Avoid overmixing.

3. Spread the chocolate in a parchment-lined sheet pan. Cover with plastic wrap and chill for several hours under refrigeration.

4. Store in dry storage overnight.

5. Portion into 1-lb/450-g pieces, form into rolls, and wrap each piece individually until needed.

6. To soften, cut the piece into 2-in/5-cm strips. Cut into ⅛-in/0.3-cm slices and knead on a clean surface, dusting with sifted confectioners' sugar as needed.

CHEF'S NOTES

This mixture is good for flowers, ribbons, bows, and cake coverings. The same recipe can be used for milk chocolate; however, if the milk chocolate modeling chocolate is too soft, add a bit of water.

This modeling chocolate can also be colored, if desired. Use paste colors, kneading the colors into the chocolate.

White modeling chocolate is a great substitute for rolled fondant and works well for enrobing cakes.

Mixing white modeling chocolate

WHITE AND DARK CHOCOLATE DÉCOR

YIELD: 12 OZ/340 G

INGREDIENT	U.S.	METRIC
White chocolate, tempered	6 oz	170 g
Dark chocolate, tempered	6 oz	170 g

1. Place the tempered chocolates in separate pastry bags.

2. On an acetate strip, pipe a small white chocolate circle and a large dark chocolate circle next to each other.

3. Using a small offset spatula, drag the chocolate outward, making a tapered end.

4. Repeat and pipe as many as desired for five entremets.

GREEN TEA WHITE CHOCOLATE SPIRALS

YIELD 1 LB/450 G

INGREDIENT	U.S.	METRIC
Matcha green tea powder	As needed	As needed
White chocolate, melted, tempered	1 lb	450 g

1. Trim acetate strips 3 by 8 in/8 by 20 cm.

2. Brush a heavy layer of green tea powder on the strips.

3. Spread white chocolate on the strips. Use a comb to drag across the strip.

4. Place the strip, curled, into a PVC pipe, making sure the corners do not touch.

WHITE CHOCOLATE PLAQUES

YIELD: 1 LB/450 G

INGREDIENT	U.S.	METRIC
Green luster dust	As needed	As needed
White cocoa butter spray	As needed	As needed
White chocolate, melted, tempered	1 lb	450 g

1. Dust an acetate sheet with green luster dust and spray with white cocoa butter spray.
2. Spread the white chocolate evenly over the acetate.
3. Once the chocolate has set slightly, cut plaques ¾ by 8 in/2 by 20 cm.

WHITE CHOCOLATE PUFFED RICE PLAQUES

YIELD: 10½ OZ/300 G

INGREDIENT	U.S.	METRIC
White pâte à glacer, melted	1½ oz	40 g
Puffed rice	3 oz	90 g
Food coloring	As needed	As needed
White chocolate, melted, tempered	6 oz	170 g

1. In a bowl, combine the pâte à glacer and puffed rice. Reserve until needed.
2. Spread the food coloring over the acetate in the desired pattern. Spread the white chocolate evenly over the acetate.
3. Once set to the touch, cut into the desired shape plaques. Remove the excess chocolate from the acetate.
4. Use the plaques once set or store in an airtight container.

CHOCOLATE NIB NOUGATINE

MAKES 9½ OZ/270 G

INGREDIENT	U.S.	METRIC
Butter	2 oz	60 g
Confectioners' sugar	2¼ oz	60 g
Pectin	Pinch	Pinch
Corn syrup	1¼ oz	35 g
Almonds, chopped to the size of cocoa nibs	1¾ oz	50 g
Cocoa nibs	1 oz	30 g
Sesame seeds	1¼ oz	35 g

1. Melt the butter in a small saucepan over low heat and be sure that it does not come to a simmer. Stir in the confectioners' sugar and the pectin until dissolved. Stir in the corn syrup.

2. Remove the mixture from the heat and stir in the almonds, cocoa nibs, and sesame seeds. Immediately pour the mixture onto a silicone baking mat and flatten slightly with a wooden spoon.

3. Cover the mixture with another silicone mat and roll the nougatine out until it is ⅟₁₆-inch/0.15 cm thick. Freeze the nougatine.

4. Remove the nougatine from the mat and cut out eleven 2½-in/6-cm and eleven 2-in/5-cm disks.

5. Bake in a 350°F/177°C oven until golden brown, about 8 minutes. Remove from the oven and trim the disks with the appropriately sized cutter to obtain a clean edge.

6. Once completely cool, store in an airtight container.

CHOCOLATE GRAHAM DÉCOR

MAKES 8 OZ/230 G

INGREDIENT	U.S.	METRIC
Dark chocolate, tempered	8 oz	230 g
Graham cracker crumbs	As needed	As needed

1. Spread the chocolate on a piece of parchment paper to ⅛ in/0.3 cm thick.
2. Generously sprinkle the graham cracker crumbs across surface of chocolate before it sets.
3. Cut into 3-in/8-cm squares.
4. Place a piece of parchment and then a flat sheet pan on top of squares to weight down and keep the chocolate flat while setting up.

WHITE CHOCOLATE GARNISH

MAKES 8 OZ/230 G

INGREDIENT	U.S.	METRIC
White chocolate, melted, tempered	8 oz	230 g

1. On a quarter-sheet of acetate, spread a thin layer of the tempered white chocolate.
2. Allow it to set until it is still pliable but tacky. Cut into 1½ by 3-in/4 by 8-cm rectangles. Cut each along the diagonal to create two triangle garnishes.
3. Allow to set for 24 hours before removing from the acetate.

MARZIPAN FOR MODELING AND CAKE COVERING

MAKES 17 LB 2 OZ/7.77 KG

INGREDIENT	U.S.	METRIC
Almond paste	7 lb	3.18 kg
Confectioners' sugar	7 lb	3.18 kg
Fondant	2 lb	910 g
Glucose syrup	1 lb	450 g
Brandy	2 oz	60 g

Blend together the almond paste and confectioners' sugar with the paddle attachment on low speed, about 2 minutes. Add the fondant, glucose syrup, and brandy and mix just until the mixture is smooth. Store in an airtight container under refrigeration.

CHEF'S NOTES

You will need approximately 1 lb 4 oz/570 g marzipan to cover a 10-in/25-cm cake.

The consistency of marzipan can be adjusted as necessary. Molded marzipan fruits and similar items require a firmer consistency so they hold their shape. Knead additional confectioners' sugar into the marzipan by hand until the desired consistency is achieved.

Overworked marzipan becomes excessively oily and loses its characteristic smooth, claylike texture. If this happens, knead in a small measure of simple syrup. This will rebind the oils and solids. Additional confectioners' sugar may be added to achieve the original consistency again as well.

MARZIPAN LEAVES

YIELD: 4 OZ/110 G

INGREDIENT	U.S.	METRIC
Marzipan	4 oz	110 g
Green food coloring	As needed	As needed

1. Heat a convection oven to 230°F/110°C.
2. Color the marzipan to the desired color.
3. Roll out marzipan thinly and cut out desired leaf shapes.
4. Place on a curved surface that is heat resistant and bake for 2 hours or until dry.

MARZIPAN CHESTNUTS

YIELD: 1 LB 10 OZ/740 G

INGREDIENT	U.S.	METRIC
Marzipan	1 lb 10 oz	740 g
Cocoa powder	As needed	As needed
Brown food coloring	As needed	As needed

1. Divide marzipan into two pieces. Color one half with cocoa powder until desired color is reached.
2. Color the remaining half of the marzipan with brown food color until a light brown is achieved.
3. Make a round of each color, assuring that the lighter color is smaller than the darker.
4. Taper each end and form into a chestnut shape.

POURED SUGAR

MAKES 3 LB 2 OZ/1.47 KG

INGREDIENT	U.S.	METRIC
Sugar	2 lb	910 g
Water	12½ oz	355 g
Glucose syrup	7 oz	200 g
Acid (see Chef’s Notes)	As needed	As needed

1. Place the sugar and water in a large copper or heavy-gauge saucepot. Bring to a boil, stirring constantly with a wooden spoon or a wire whisk. Using a clean, wet pastry brush, wash down the sides of the pot. Remove any crystals that may adhere to the sides of the pot with a small tea sieve or ladle.
2. After the mixture comes to a boil, stop stirring and add the glucose. Continue to wash the sides of the pot until the mixture comes to the proper temperature (see Chef’s Notes).
3. Shock the pot in a cold water bath. Allow the surface bubbles to dissipate and pour it into a prepared frame or mold.

CHEF’S NOTES

To control crystallization, add 1 drop of acid at 266°F/130°C for every 2 lb/910 g of sugar syrup being cooked, along with any color or whitening.

The final cooking temperature will range from 310° to 320°F/154° to 160°C, depending on the size of the piece as well as the color desired.

For a pure white–colored sugar, add whitening and cook the sugar syrup only to 295°F/146°C.

Various marbleized effects can be achieved by swirling a small amount of food coloring into the sugar before pouring it into forms or frames.

The actual volume amount needed will vary depending on the size of the piece being produced.

SPUN SUGAR

MAKES 1 LB 3 OZ/540 G

INGREDIENT	U.S.	METRIC
Sugar	1 lb	450 g
Water	5 oz	140 g
Light corn syrup	3½ oz	100 g

1. Combine the sugar and water in a heavy-bottomed saucepan and stir to ensure all the sugar is moistened. Bring to a boil over high heat, stirring frequently to dissolve the sugar. Wash down the sides of the pan with a wet pastry brush to remove any sugar crystals. When the mixture comes to a boil, stop stirring and skim the surface to remove any scum.

2. Add the corn syrup and cook, occasionally washing down the sides of the pan with a wet pastry brush, until the syrup reaches 293°F/145°C.

3. Shock the pan in an ice water bath for 10 seconds. Allow the sugar to cool undisturbed at room temperature until it reaches the consistency of honey.

4. Lightly oil a foil-covered template and set it on a small container so that it is raised above the surface of the table, over a silicone baking mat.

5. With a fork, gently drizzle the sugar back and forth over the template, allowing the sugar to fall over the sides of the template. Drizzle more sugar back and forth across the first strands, creating a grid of sugar strands.

6. With scissors, cut away the excess sugar that has fallen over the sides of the template. Remove the spun sugar from the template and warm it briefly under a heat lamp until it is pliable enough to bend or curve as desired.

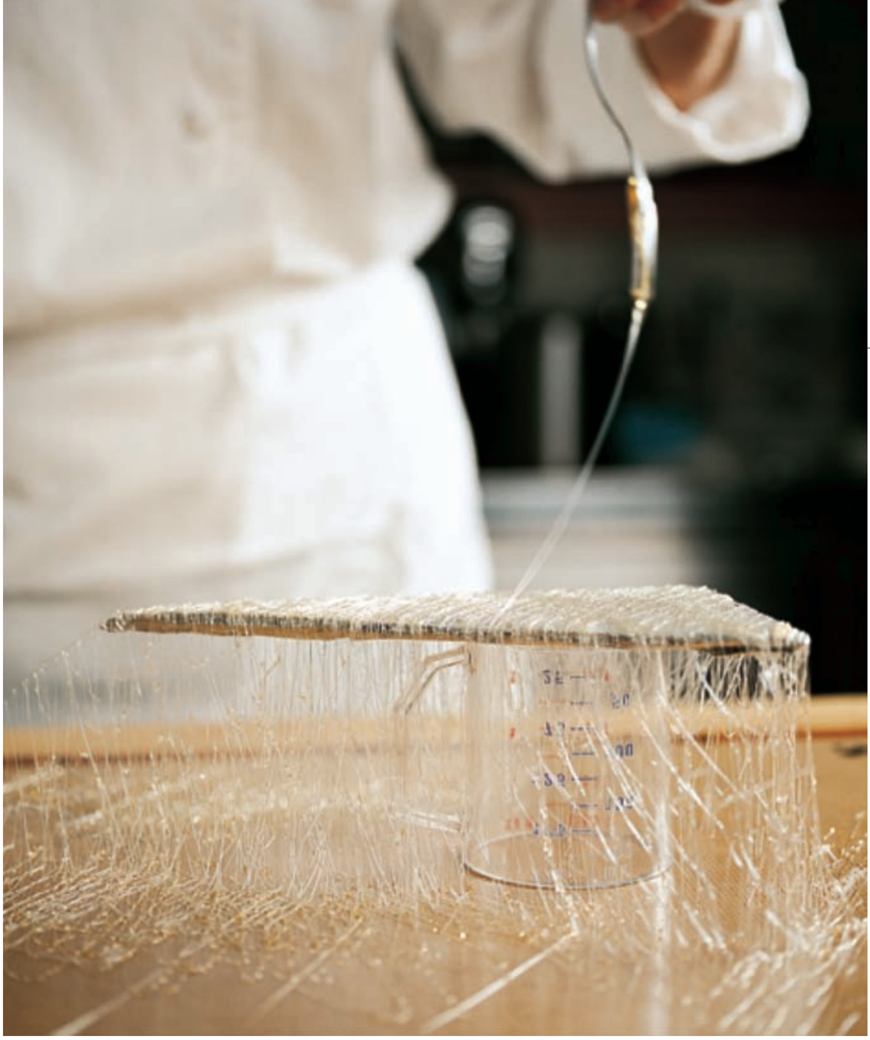
CHEF'S NOTES

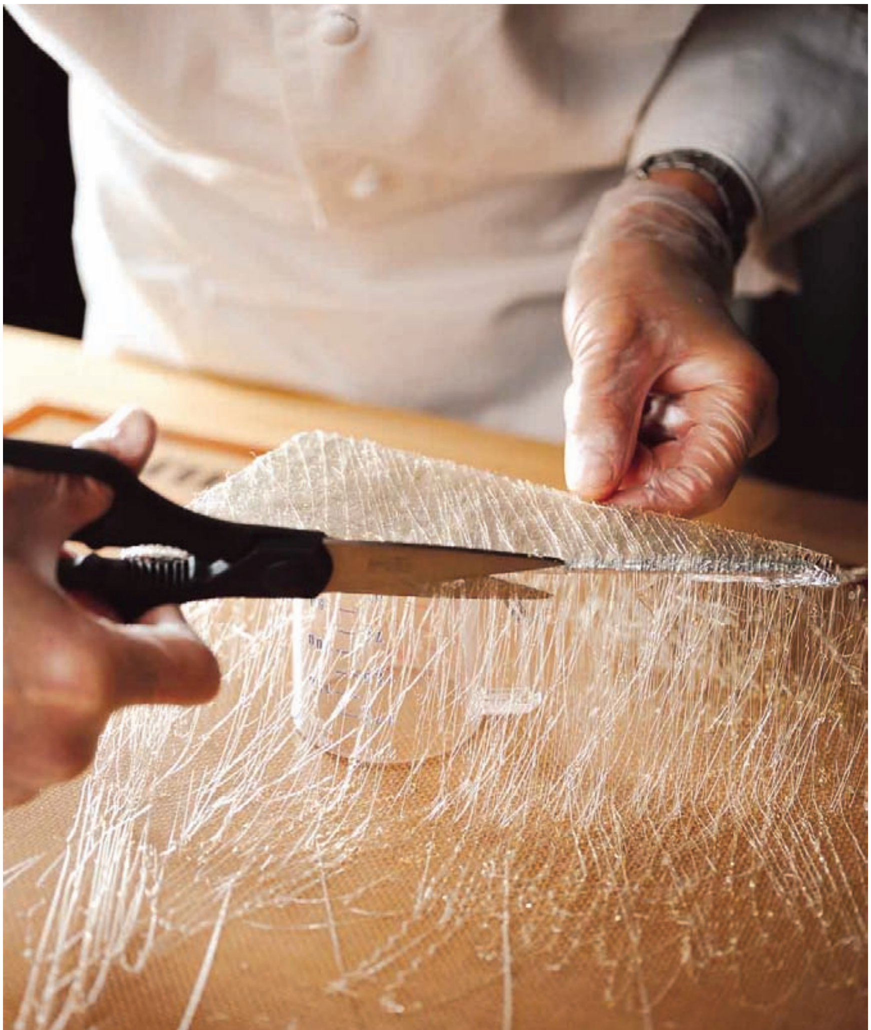
Isomalt may be substituted for the sugar to ensure that the sugar syrup remains clear.

For caramel-colored spun sugar, cook the sugar until it reaches a light golden brown.

VARIATION

SPUN SUGAR BALL *Follow the directions through step 3. Set up two metal bars 8 in/20 cm apart, resting on containers, so they are above the work surface. Use a fork to drizzle the sugar quickly back and forth over the metal bars until a netting of sugar is formed. Gather the sugar into a ball.*





LEFT: *Drizzling the sugar over the template*

RIGHT: *Cutting away the excess sugar*

ROCK SUGAR

MAKES 3 LB/1.36 KG

INGREDIENT	U.S.	METRIC
Sugar	2 lb	910 g
Water	1 lb	450 g
Royal Icing (page 1014), stiff	2 tbsp (heaping)	30 mL

1. Line a bowl with aluminum foil. Lightly brush the foil with oil.
2. Bring the sugar and water to a boil, washing down the sides of the pot with a wet pastry brush so that crystals do not form. Boil to 295°F/146°C.
3. Remove from the heat and whisk in the royal icing. The mixture will rise and collapse.
4. Return to the heat and bring to a boil again. Pour into the prepared bowl. Cool completely, break into pieces, and store in an airtight container.

CHEF'S NOTE

Rock sugar can be colored, if desired. Add the color at 266°F/130°C. It can also be left white and color can be applied with an airbrush.

CARAMEL DÉCOR

MAKES 2 LB 4 OZ/1.02 KG

INGREDIENT	U.S.	METRIC
Sugar	1 lb 8 oz	680 g
Water	6 oz	170 g
Glucose syrup	6 oz	170 g

1. Lightly oil a marble surface or silicone baking mat. Prepare an ice bath.
2. Place the sugar, water, and glucose in a large nonreactive saucepot and cook over high heat until a very light caramel is achieved.
3. Remove from the heat and let carry over to a medium caramel.
4. Cool to a honey consistency. If the caramel is getting too dark, shock in an ice bath.
5. Using a spoon, make spiral designs.

PULLED SUGAR

MAKES 5 LB 4 OZ/2.38 KG

INGREDIENT	U.S.	METRIC
Sugar	2 lb	910 g
Water	6½ oz	180 g
Light corn syrup	2 lb	910 g
Glucose syrup	7 oz	200 g
Tartaric Acid (page 1026; see Chef's Notes)	4 drops	4 drops
Food coloring (optional)	As needed	As needed

1. In a copper or heavy-gauge saucepot, bring the sugar and water to a boil, stirring constantly. Wash down the sides of the pot with a wet pastry brush to remove any crystals that may adhere.

2. When the mixture comes to a boil, stop stirring and add the corn syrup and glucose. Bring back to a boil. Remove from the heat, cover, and store at room temperature.

3. For the final cooking for pulling, bring back to a boil. Continue to wash down the sides of the pot throughout the boiling of the sugar. Add acid as necessary, and color if using, at 266°F/137°C. Cook to a final temperature of 315°F/156°C. Pour onto a lightly oiled marble surface.

CHEF'S NOTES

The number of drops of acids and final cooking temperature can be adjusted for humidity or environmental conditions as well as for the skill level of the person pulling the sugar.

TARTARIC ACID

MAKES 8 OZ/230 G

INGREDIENT	U.S.	METRIC
Water	4 oz	110 g
Tartaric acid, granulated	4 oz	110 g

Bring the water to a boil. Add the acid and stir to dissolve. To store, put into a medicine bottle with a dropper.

PASTILLAGE

MAKES 1 LB 4 OZ/570 G

INGREDIENT	U.S.	METRIC
Confectioners' sugar, sifted	1 lb	450 g
Gum tragacanth	1 tbsp plus 1 tsp	1 tbsp plus 1 tsp
Cream of tartar	⅛ tsp	⅛ tsp
Water, hot	2 oz	60 g
Shortening	As needed	As needed

1. Put 8 oz/230 g of the sugar, the gum tragacanth, and cream of tartar in the mixer. Add the water and mix with the paddle attachment on medium speed.

2. Add the remaining sugar in several additions until the mixture forms a kneadable dough. (You may not need all the sugar.)

3. Remove from the mixer bowl and knead on a work surface until smooth. Form into a log, coat the log with a little shortening, and wrap with plastic wrap. Wrap again with a wet towel, then once more with plastic wrap or put into a plastic bag.

GUM PASTE

MAKES 1 LB 8 OZ/680 G

INGREDIENT	U.S.	METRIC
Gelatin, granulated	½ oz	14 g
Water	4 oz	110 g
Glucose syrup	3¼ oz	90 g
Shortening	¾ oz, plus more for kneading	20 g, plus more for kneading
Confectioners' sugar	2 lb	910 g
Gum tragacanth	1¾ oz	50 g

1. Bloom the gelatin in the water for 5 to 10 minutes. Melt over a hot water bath.

2. Add the glucose and shortening. Warm until all the shortening melts. (The mixture should be hot.)

3. In a 5-qt/4.8-L bowl, sift together the sugar and the gum tragacanth. Add the gelatin mixture all at once and mix until it comes together.

4. Blend in a mixer with the paddle attachment on medium speed for 5 minutes. (The right consistency should be soft but not wet.)

5. Remove from the mixer and quickly knead together on a work surface rubbed with a small amount of shortening. Wrap tightly in two layers of plastic wrap.

ROLLED FONDANT

MAKES APPROXIMATELY 2 LB/910 KG

INGREDIENT	U.S.	METRIC
Water	1½ oz	40 g
Gelatin, granulated	2¼ tsp	11.25 mL
Light corn syrup	4½ oz	130 g
Glycerin (optional)	1½ tbsp	22.50 mL
Confectioners' sugar, sifted	1 lb 8 oz	680 g
Shortening, for coating	As needed	As needed

Covering a cake with rolled fondant.

1. Combine the water and gelatin and heat gently to dissolve only, to about 90°F/32°C. Remove from the heat and stir in the corn syrup and glycerin, if using.

2. Add the sugar and mix until smooth and well combined. Form into a log.

3. Lightly coat with shortening. Wrap with plastic wrap, sealing tightly.

CHEF'S NOTE

It is not necessary to refrigerate the fondant. Best results are achieved if the fondant is used the same day it is made, as it will tighten up overnight.

GUM GLUE

INGREDIENT	U.S.	METRIC
Water	As needed	As needed
Gum Paste (page 1027), old	As needed	As needed

Combine 3 parts water and 1 part old gum paste in a pot, and boil until it is the consistency of glue.

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WEDDING AND SPECIALTY CAKES

Wedding and specialty cakes are a culmination of the talent, skills, and knowledge of the pastry chef or baker. To make a beautiful and flavorful cake, the pastry chef or baker must hone his or her skills in almost all aspects of the baking and pastry arts. Creation and development of cakes such as the ones in this chapter are limited only by the creativity of the individual.

TRADITIONAL WEDDING CAKES

TRADITIONAL BRITISH-STYLE WEDDING cakes are perhaps the quintessential wedding cakes, from which most other wedding cake styles are derived. These are, in general, unfilled dark fruitcakes. The richness of the cake reflects a time when refrigeration was unavailable. Dried fruit, sugar, suet, and thick layers of coatings and icings helped the cakes stay fresh for one year, as the top layer would be saved and eaten on the couple's first anniversary. The cakes are traditionally coated with a layer of jam, then with marzipan, and finally with several coats of royal icing. The jam and marzipan keep the white icing from absorbing oils or moisture from the cake, while protecting the cake itself from moisture loss and staling.

Traditional British-style cakes consist of three tiers supported by pillars, generally pastillage, and both the icing and the decoration, which consists of royal icing piping and pastillage, are pure white. To some traditionalists, the British cake remains the only true wedding cake. Because the cake does not require refrigeration, which would damage sugar décor work, very detailed decorations, often baroque or gothic in style, can be applied. However, the labor-intensive nature of this style of cake is a drawback for most pastry chefs and bakers today—nor are these cakes to everyone's taste. In addition, the royal icing used for décor is very hard and brittle, making it difficult to cut such a cake cleanly or easily.

The British cultural influence is reflected in the styles of wedding cakes that evolved in countries colonized by Britain. The Australian and South African styles are shining examples of this influence. Decoration consists of minute royal icing piping and gum-paste flowers. Colors, if used at all, are the softest of pastels. Although these cakes may be quite ornate, their overall appearance is very soft and delicate. The tiers may simply be stacked, may be supported on pillars, or, often, may be displayed on offset asymmetrical cake stands.

In the Australian-style wedding cake, as with the British, it is not uncommon for tiers to be octagons, squares, or horseshoe shapes. The primary appeal of Australian cakes is their ornate yet delicate appearance. Beautiful realistic flowers are created from gum paste, and royal icing embroidery, string work, flood work, and ornaments are used to create stunning and intricate effects. The very detailed style of decoration, however, can be a disadvantage to the pastry chef or baker, in that it is labor-intensive and therefore expensive to produce.

The South African–style cake is very similar, but it can be distinguished from the Australian style by the large yet delicate wings made of royal icing filigree and flood work that extend over the cake.

The British cake also inspired American-style cakes. American wedding cakes are most clearly defined by the use of buttercream icing, buttercream piping décor, and buttercream roses, often colored. There is no single cake type of choice in American cakes, but pound cakes, high-ratio cakes, génoise, and carrot cakes are most common. Regardless of the style of cake, good judgment and craftsmanship are required for the production of a cake that is cost-effective and attractive. Highly decorated cakes such as these should always be made with high-quality ingredients so that the finished cake can be both a delicious dessert and an impressive showpiece.

THE MODERN WEDDING CAKE

CLEAN, STRAIGHT LINES AND simple decorations in the form of cutouts of chocolate, pastillage, marzipan, or nougatine define contemporary wedding cakes. Fresh flowers or fresh fruits are frequently used. The cake itself may be almost any variety, from cheesecake to mousse cake to sponge with fruit, or even a charlotte. Almost any type of icing may be used, with good-quality buttercream most common. Offset cake stands are the rule for modern cakes, since they are too light and fragile to be stacked.

The advantages of modern-style cakes are efficiency in production, and visual and taste appeal. Simple elegance and a light, fresh appearance are the objectives, in contrast to the baroque ornamentation of more traditional styles. Cutouts can be made in advance, then placed on the cake relatively quickly for decoration. Fresh fruit and flowers are beautiful in their own right and require little assistance from the pâtissier.

The taste of the finished product is an important factor in favor of the modern-style wedding cake, with virtually no restrictions on the type of cake or fillings. Generally, as with modern cuisine, fresh and seasonal products are employed to their best advantage. If a customer loves fresh strawberry charlotte, there is no reason the pâtissier cannot create a festive, attractive wedding cake composed of charlottes. Many people seek out the unusual, and a modern-style wedding cake can be tailored to their liking.

SPECIALTY CAKES

SPECIALTY CAKES EMPLOY MANY of the same techniques as do wedding cakes. There are two elements that distinguish wedding cakes from specialty cakes: Specialty cakes are typically not tiered or stacked as are wedding cakes, and they are most often less ornately decorated. In some respects, however, the creation of a specialty cake presents fewer restrictions for the pastry chef or baker's creativity. Specialty cakes are less limited by shape, color, and type of décor. Types of décor for these cakes will be restricted only by ambient temperature and humidity.

BUILDING A PROPERLY SUPPORTED CAKE

ADEQUATE SUPPORT FOR A tiered cake is, of course, an important consideration in the construction of the cake. If the tiers are to be stacked, they will require added support (possible exceptions are British- and Australian-style cakes, which are often solid enough not to require additional support). This added support can be supplied by wooden dowels or pipes cut to length and inserted into each tier prior to placing the next tier on top. Thus the weight of the tiers above is supported by the dowels rather than by the cake below. If pillars or columns are used, each type has its own system for providing strength and support to the layers above.

DOWELING A CAKE

Dowels are to multitiered cakes what steel beams are to skyscrapers. Without some sort of support, the weight of the upper tiers will cause them to sink into the tiers below. However, this can be easily avoided by inserting simple drinking straws or wooden dowels for support. The number of supports needed will depend on how large the cake is and how many tiers it must support.

1. Begin with the cake that is to be the bottom tier. Center a cake pan that is the same size as the tier that will go on top of it. Press the pan down gently to make an imprint in the buttercream or fondant. Remove the cake pan. The pan outline will guide the location of the straws.

2. Insert a straw or dowel into the center of the cake, making sure it goes all the way down to the cake board. Use a marker to indicate on the support where it is flush with the top of the cake. Remove the support and wipe off any cake or icing.

3. Cut the support with a pair of scissors or serrated saw, using the line as a guide.

4. Use the cut support as a guide to cut the other supports to the same height.

5. Insert the supports into the cake, spacing them out evenly and leaving approximately 1 inch of space between the edge of the cake pan imprint and the supports.

6. To make sure that the next tier will sit evenly on the first tier, place a cake board the same size as

the next tier on top of the supports and then place a leveler on top of the board. If a cake has high and low areas (is not even), adjust the heights of the supports so the next tier will be level. The supports in short areas will have to be slightly higher than the cake so that the next tier will not be slanted.

7. Insert supports into all the tiers except the top tier.

ASSEMBLING MULTITIERED CAKES

The most challenging part of assembling a cake is centering the tiers. Use the supports and imprint from the cake pans as guides. If adjustment is necessary, use the palm of your hand to push the cake in the direction it must go to be centered.

1. Pipe a small amount of royal icing or buttercream on top of each support.

2. Using a large offset spatula, lift the next tier and brace the cake by holding the cake board.

3. Position the cake on top of the tier below so that it is perfectly centered. Use the supports as a guide. Place one end of the cake down onto the supports and then slowly remove the spatula and your fingers until the entire cake is correctly positioned on the tier beneath. Repeat with the remaining cake tiers.

SCHEDULING THE PRODUCTION OF A WEDDING OR SPECIALTY CAKE

THE TIMETABLE FOR CAKE production varies widely depending on the style of cake being produced.

A sample schedule is given below.

Prior to day 1: Design and produce decorations; prepare hardware.

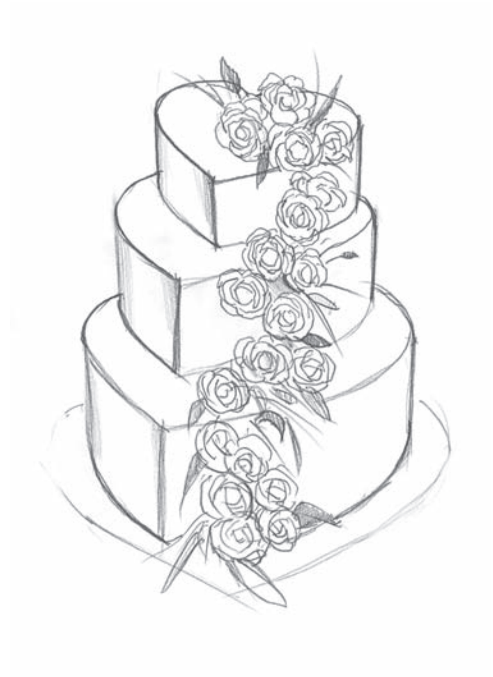
Day 1: Bake cake layers.

Day 2: Fill cake layers and seal-coat the cake.

Day 3: Ice and decorate cake.

Day 4: Transport cake and set it up.

This schedule is designed for lighter, freshly made cakes. Rich, dense British- or Australian-style cakes are often allowed to mature and ripen for weeks, meaning that the cake can be baked well ahead of time. For any cake, most of the time-consuming decorations can be made well in advance as long as there are adequate dry storage facilities. Creating the décor for the cake generally must begin several days prior to assembling and serving both because of the time involved in the decoration and the time required for royal icing string work to dry. Do not refrigerate this type of cake; the sugar decorations will melt.



Sketching the design on paper.

TRANSPORTING THE CAKE

CAKES TO BE TRANSPORTED to job sites require special packaging to ensure their safe arrival. In general, the farther the cake must travel, the less finished it should be prior to arrival at the site. For tiered cakes, each tier can be assembled as much as possible. However, stacking the cake on site will make the cake easier to maneuver. Once stacked, a cake becomes very heavy and cumbersome. To transport, place each tier in a box on a nonskid carpet pad, then place each box on the floor of the vehicle to be used for transportation, again on a nonskid carpet pad. Fragile gum paste or pulled sugar flowers and ornaments are best placed on the cake after it reaches its destination.

COSTING WEDDING CAKES

WEDDING CAKES ARE GENERALLY priced by the portion. There are many factors influencing the price, including:

Labor cost. This is by far the highest expense, especially for fancy cakes. An Australian-style cake will cost more per portion than an American-style cake, as it requires many more hours of skilled labor to produce. It is also a more unusual product.

Market segment and location. Price will be dictated in part by who the customer is, what the ticket for a wedding averages in a given locale, and whether the wedding cake is sold retail (private) or wholesale (caterer).

Food cost. Originally a relatively small expense, this is becoming more crucial for modern cakes with fresh and high-quality ingredients.

Unique features. If you are selling to an affluent market segment, you will be able to charge more for something as important as a wedding cake. Customers are willing to pay extra for a product they cannot get elsewhere.

HEART-SHAPED WEDDING CAKE

MAKES 60 SERVINGS

INGREDIENT	U.S.	METRIC
Carrot Cake (page 294), 6-, 8-, and 10-in/15-, 20-, and 25-cm heart shapes	1	1
Cake board, 10-in/25-cm heart, covered in white fondant with white ribbon around the outer edge	1	1
Cream Cheese Icing (page 482)	4 lb 8 oz	2.04 kg
Dowels	10	10
Rolled Fondant (page 1028), peach	5 lb	2.27 kg
Buttercream for Décor (page 1013)	10 oz	280 g
Gum Paste roses (see page 1024), full	9	9
Gum Paste roses (see page 1024), half open	12	12
Gum Paste rosebuds (see page 1024)	14	14
Gum Paste leaves (see Chef's Note, page 991)	34	34
Royal Icing (page 1014)	8 oz	230 g

1. Place the 10-in/25-cm cake layer on the cake board. Slice the cake into three even layers and fill with cream cheese icing. Crumb-coat the cake with icing. Insert 6 dowels in the cake: 1 in the center, 2 at the top, 1 at each side, and 1 at the base and trim so they are flush with the surface of the cake. Roll out the fondant ⅛ in/0.3 cm thick. Carefully cover the cake with the fondant and smooth the top and sides. Trim the fondant from the bottom edge of the cake.

2. Repeat the slicing, filling, crumb-coating, and covering process with the 8-in/20-cm cake and the 6-in/15-cm cake, inserting 4 dowels in the 8-in/20-cm cake and none in the 6-in/15-cm cake.

3. Place the 8-in/20-cm cake on top of the bottom tier, with the right side and right rear corner aligned with the 10-in/25-cm cake so that the assembled cake is offset. Place the 6-in/15-cm cake on top of the second tier, aligning the right sides and right rear corners.

4. Using a pastry bag fitted with a #3 star tip, pipe a shell border of buttercream around the base of each tier.

5. Arrange a spray of roses and leaves in the center of the top tier of the cake, using 5 full roses, 5 half-open roses, 7 rosebuds, and 8 leaves, attaching each with a small dab of royal icing.

6. Arrange a spray on the right side of the middle and bottom tiers and one on the cake board, placing each spray slightly in front of the previous one to create a cascading effect: use 2 full roses, 2 half-open roses, 3 rosebuds, and 10 leaves for the spray on the 8-in/20-cm tier. Use 1 full rose, 3 half-open roses, 3 rosebuds, and 10 leaves for the spray on the 10-in/25-cm tier. Use the remaining 1 full rose, 2 half-open roses, 1 rosebud, and 6 leaves for the spray on the cake board.

Heart-shaped
wedding cake
details

WHITE BUTTERCREAM MAGNOLIA WEDDING CAKE

MAKES 80 SERVINGS

INGREDIENT	U.S.	METRIC
Chiffon Sponge (page 311), 4-, 8-, and 12-in/10-, 20-, and 30-cm	1	1
Cake board, 4-in/10-cm round, 9-in/23-cm round, and 16-in/41-cm hexagonal, covered in white fondant with a white ribbon around the outer edge	1	1
Strawberry Mousse (page 428)	3 lb 8 oz	1.59 kg
Buttercream for Décor (page 1013)	3 lb	1.36 kg
Dowels	13	13
Gum Paste/Pastillage (page 991) or Marzipan Leaves (see page 1020), ½ by 2 in/1 by 5 cm	16	16
Gum Paste/Pastillage (page 991) or Marzipan Leaves (see page 1020),1 by 2½ in/3 by 6 cm	16	16
Gum Paste Magnolias (see page 1008)	7	7

1. Slice each of the cakes into three 1-in/3-cm layers. Place one of the 1-in/3-cm layers on a cardboard cake round of the same size. Apply an even coating of mousse, using 6 oz/170 g. Top with a second layer, apply the same amount of mousse, and top with the third layer. Coat the top and sides of the cake with buttercream. Refrigerate until the filling has set, at least 2 hours.

2. Repeat the process with the two remaining cakes, using 10 oz/280 g mousse for each of the layers of the 8-in/20-cm cake and 12 oz/340 g mousse for each of the layers of the 12-in/30-cm cake.

3. Place the largest cake on the 16-in/41-cm hexagonal cake board. Insert 9 dowels in the cake: 1 directly in the center and the other 8 around the center to form a circle 5 in/13 cm in diameter. Trim the dowels so they are flush with the surface of the cake.

4. Coat a circular drum separator (3 by 6 in/8 by 15 cm) with buttercream. Place it in the center of the cake, directly over the dowels. Place the 8-in/20-cm cake on the 9-in/23-cm cake board and place it on top of the drum separator. Insert 4 dowels in the 8-in/20-cm cake: 1 directly in the center and the remaining three 1½ in/4 cm from the center to form a triangle around the center dowel. Trim each of the dowels so they are flush with the surface of the cake. Place the smallest cake on top, in the center of the middle tier.

5. Using a pastry bag fitted with a #4 shell tip, pipe a shell border of buttercream around the base of each tier and the drum separator. Using a #2 plain tip, pipe buttercream scrollwork on each of the bottom two tiers: 6 scrolls on the 12-in/30-cm cake and 6 scrolls on the 8-in/20-cm cake, spacing them evenly.

6. Attach the small leaves to the sides of the top tier by gently pressing the ends into the buttercream, with the tips pointing directly up. Attach the large leaves to the sides of the drum separator by gently pressing the ends into the buttercream, with the tips pointing directly up.

7. Place one of the magnolias in the center of the top tier. Place the remaining magnolias around the sides of the bottom tier, centering them between the piped scrollwork designs.

White buttercream magnolia cake details

WHITE CAKE WITH BLACK SILHOUETTES

MAKES 200 SERVINGS

INGREDIENT	U.S.	METRIC
Dowels	13	13
Chiffon Sponge (page 311), 8 in/20 cm high, 14-in/35-cm square, filled and seal-coated	1	1
Chiffon Sponge (page 311), 4 in/10 cm high, 12-in/30-cm square, filled and seal-coated	1	1
Chiffon Sponge (page 311), 4 in/10 cm high, 8-in/20-cm square, filled and seal-coated	1	1
Rolled Fondant (page 1028)	5 lb	2.27 kg
Shortening	As needed	As needed
Rolled Fondant (page 1028), black	2 lb 8 oz	1.13 kg

1. Insert 9 dowels in the 14-in/35 cm cake: 1 directly in the center and the other 8 around the center to form a square 5 in/13 cm wide. Trim them so they are flush with the surface of the cake. Wrap the cake with approximately 2 lb 4 oz/1.02 kg fondant.

2. Insert 4 dowels in the 12-in/30-cm cake: 1 directly in the center and the remaining three 1½ in/4 cm from the center to form a triangle around the center dowel. Trim each of the dowels so they are flush with the surface of the cake. Wrap the cake with approximately 1 lb 8 oz/680 g fondant.

3. Wrap the 8-in/20 cm cake with approximately 1 lb 4 oz/570 g fondant.

4. Rub a 17-in/43-cm round wooden board with shortening.

5. Roll 8 oz/230 g black fondant to ⅛ in/0.3 cm thick, lay over the board, and smooth out. Trim the fondant to the bottom of the board with a paring knife and attach a ¼-in/0.6-cm black ribbon at the edge to hide any inconsistencies. A small dot of hot glue can secure the two ends of the ribbon.

6. Draw a free-hand leaf design on parchment with black marker using the dimensions of the square cakes as a guide for placement. Some of the leaves should extend above the top of each tier.

7. Roll the remaining black fondant to ⅛ in/0.3 cm thick.

8. Use a straight edge to cut black strips approximately ¹⁄₁₆ in/0.15 cm wide and lay them on the drawn image of the leaves to dry.

9. Carefully stack the 12-in/30-cm cake on top of the bottom tier; the cake should be placed in the center of the cake below. Repeat with the 8-in/20-cm cake.

10. Apply a ½-in/1-cm ribbon to the bottom of each cake by slightly moistening the bottom edge of the cake.

11. Once the black leaves have dried, use water to lightly brush the back of the black leaves and press firmly to the cake to hold them in place.

CHEF'S NOTES

The 14-in/35-cm cake has 8 layers of cake and 7 layers of filling and contains 6 lb 6 oz/2.89 kg light mousse filling. The 12-in/30-cm cake 4 layers of cake and 3 layers of filling and contains 3 lb 3 oz/1.45 kg light mousse filling. The 8-in/20-cm cake has 4 layers of cake and 3 layers of filling and contains 1 lb 1½ oz/500 g light mousse filling.

HYDRANGEA CAKE

MAKES 190 SERVINGS

INGREDIENT	U.S.	METRIC
Chiffon Sponge (page 311), 4 in/10 cm high, 4-, 8-, 12-, and 16-in/10-, 20-, 30-, and 41-cm squares, filled and seal-coated	1	1
Cake board, 20-in/51-cm square, covered in blue fondant with a pink ribbon around outer edge	1	1
Royal Icing (page 1014)	8 oz	230 g
Rolled Fondant (page 1028), blue	2 lb	910 g
Dowels	25	25
Rolled Fondant (page 1028), yellow	2 lb	910 g
Styrofoam rounds, 2, 6, and 8 in/5, 15, 20 cm	1	1
Gum Paste roses (see page 1004), full	9	9
Gum Paste roses (see page 1004), half open	6	6
Gum Paste leaves (see page 991)	8	8
Gum Paste hydrangeas (see "Hydrangea Flowers," page 1011)	240	240

1. Carefully cover the cake with the blue fondant and smooth the top and sides. Trim the fondant from the bottom edge of the cake. Place 2 dowels in the center of the cake. Then form a circular pattern with 10 more, placing 3 at the top, 2 on either side, and 3 at the bottom, making sure that each dowel is approximately 3 in/8 cm from the outer edge of the cake.

2. Repeat the covering and doweling process with the 3 other cakes, inserting 9 dowels in the 12-in/30-cm cake, 4 in the 8-in/20-cm cake, and none in the 4-in/10-cm cake.

3. Roll out the yellow fondant to ⅛ in/0.3 cm thick. Cut into four 1½-in/4-cm wide strips, each strip long enough to wrap around the outside base of one of the cakes. You will need strips approximately 16 in/41 cm, 32 in/81 cm, 48 in/122 cm, and 64 in/163 cm long. Wrap the strips around the base of each cake, adhering with royal icing.

4. Attach the 16-in/41-cm cake to the cake board with a touch of royal icing.

5. Cut each of the Styrofoam rounds in half on an angle to make wedges. Attach each wedge and each cake with a touch of royal icing as you progress: Place the largest wedge in the center of the largest cake and place the 12-in/30-cm cake on top. Place the mid-size wedge in the center of the 12-in/30-cm cake in the opposite direction and place the 8-in/20-cm cake on top. Place the smallest wedge in the center of the 8-in/20-cm cake and place the 4-in/10-cm cake on the very top.

6. Arrange a spray of roses, leaves, and hydrangeas in the gap between each of the tiers of the cake, using the wires to secure the flowers into the styrofoam wedges

DOGWOOD FLOWERS CAKE

MAKES 200 SERVINGS

INGREDIENT	U.S.	METRIC
Royal Icing (page 1014)	1 lb	450 g
Rolled Fondant (page 1028), green	15 lb	6.80 kg
Dowels	31	31
Chiffon Sponge (page 311), 4 in/10 cm high, 6-, 8-, 10-, 12-, and 14-in/15-, 20-, 25-, 30-, and 36-cm rounds, filled and seal-coated	1	1
Cake board, 20-in/51-cm round, covered in green fondant with brown ribbon around the outer edge	1	1
Dark Modeling Chocolate (page 1014), for branches	2 lb	910 g
Dark chocolate, melted, tempered	1 lb	450 g
Gum Paste dogwood flowers (see page 1010), large	20–25	20–25
Modeling chocolate leaves (see page 990)	16	16

1. Trim the fondant from the bottom edge of the cake. Place 2 dowels in the center of the cake. Then form a circular pattern with 10 more, placing 3 at the top, 2 on either side, and 3 at the bottom, making sure that each dowel is approximately 3 in/8 cm from the outer edge of the cake.

2. Repeat the covering and doweling process with the 4 other cakes, inserting 9 dowels in the 12-in/30-cm cake, 6 in the 10-in/25-cm cake, 4 in the 8-in/20-cm cake, and none in the 6-in/15- cm cake.

3. Attach the 14-in/36-cm cake to the cake board with a touch of royal icing. Carefully cover the cake with green fondant and smooth the top and sides.

4. Stack the cakes in descending size order, attaching each with a touch of royal icing and making sure to center each cake on its base.

5. Roll the remaining green fondant into 2 ropes ¼ in/0.6 cm thick. Twist 2 ropes together and attach a twisted rope border around the bottom of each tier.

6. Roll tapered ropes of the modeling chocolate for branches in lengths from 2 to 8 in/5 to 20 cm. Each rope should come to a point. Fasten these ropes to the sides of the cake using tempered chocolate. Attach the flowers and leaves to the branches with tempered chocolate.

7. Place a centerpiece of modeling chocolate branches and gum paste dogwood flowers in the center of the top tier of the cake.

ROYAL ICING BOX CAKE

MAKES 50 SERVINGS

INGREDIENT	U.S.	METRIC
Shortening	As needed	As needed
Rolled Fondant (page 1028)	6 oz	170 g
Rolled Fondant (page 1028), colored as desired	8 oz	230 g
Royal Icing (page 1014)	1 lb	450 g
Chiffon Sponge (page 311), 8 in/20 cm high, 4 in/10 cm square, filled and seal-coated	1	1

1. Rub a 5-in/13-cm square wooden board with shortening.

2. Roll the fondant to ⅛ in/0.3 cm thickness, lay over the board, and smooth out. Trim the fondant to the bottom of the board with a paring knife and attach a ¼-in/0.6-cm ribbon at the edge to hide any inconsistencies. The ribbon should match the colors of the panels for the cake. A small dot of hot glue can secure the two ends of the ribbon.

3. For the plaques: Roll the colored fondant to ⅛ in/0.3 cm. Cut four 4 by 8-in/10 by 20-cm rectangles to fit the outside of the cake and one 4-in/10-cm square for the top. Lay out on flat sheet trays or Plexiglas just until surface dries and then turn over. This will keep the plaques from sticking to the surface as well as help them to stay flat without warping as both sides will dry more evenly. Allow plaques to dry overnight

4. Once the plaques are dry, using a thin plastic stencil and a small offset spatula, gently spread the royal icing through the stencil (see page 983) onto the plaques. Be especially careful not to move the stencil or work the royal icing underneath it. This should result in a clean but thinly applied design on the plaques. Peel off stencil and allow royal icing to dry.

5. Place the cake on the covered board. Place the plaques neatly on the iced cake. The plaques should adhere to the crumb coat. If not, a few dots of soft buttercream will help them adhere.

6. Pipe a shell border with royal icing using an 865 tip where the plaques meet on the sides and top edges of the cake to hide the gap.

7. Using a ¼-in/0.6-cm ribbon to finish the bottom of the cake.

CHEF'S NOTE

The cake has 8 layers of cake and 7 layers of filling; this cake utilizes 6 lb 6 oz/2.89 kg filling.

OVERPIPED CAKE

MAKES 12 SERVINGS

INGREDIENT	U.S.	METRIC
Chiffon Sponge (page 311), 10-in/25-cm round, filled and seal-coated	1	1
Cake board, 10-in/25-cm round, covered in white fondant with white ribbon around the outer edge	1	1
Buttercream for Décor (page 1013)	10 oz	280 g
Rolled Fondant (page 1028), white	2 lb	910 g
Green food coloring	As needed	As needed
Gum Paste roses (see page 1004)	7	7
Gum Paste rosebuds (see page 1004)	As needed	As needed
Gum Paste leaves (see page 991)	8	8
Royal Icing (page 1014), yellow	2 oz	60 g
Royal Icing (page 1014), white	1 lb 3 oz	540 g
Royal Icing (page 1014), purple	1 lb	450 g
Royal Icing (page 1014), green	4 oz	110 g

1. Roll out the fondant ⅛ in/0.3 cm thick. Carefully cover the cake with the fondant and smooth the top and sides. Trim the fondant from the bottom edge of the cake.

2. Place the cake on the cake board.

3. Massage a bit of green food coloring into the remaining white fondant and roll tapered ropes for branches in lengths from 2 to 4 in/5 to 10 cm. Each rope should come to a point to create vines. Create a cluster of modeling chocolate roses, rosebuds, leaves, and vines in the center of the top of the cake and pipe small pearls of yellow royal icing around the flowers. When assembling the roses and buds, you will need to identify the number of flowers that are needed to cover the space available. In most cases, 2 large roses, 1 medium rose, and 4 buds should be enough for the bunch to be effective. As shown, some clusters are effective fillers for the display.

4. Using white royal icing, pipe a pearl border around the bottom edge of the cake (see Chef's Note). With a very fine piping tip and more white royal icing, pipe strings of filigree around the outer edge of the cake. Using the same tip, pipe swags around the outside of the cake and around the pearl border at the base of the cake. Allow each of these embellishments to dry, then pipe over the existing lines. Repeat this process five to eight times to create the overpiped elements.

5. Using the purple royal icing, a small rose tip, and a nail, pipe the violets. Push the icing out of the bag into five petals onto a small square of parchment paper. Let set for 1 hour. Use a fine piping tip and the yellow royal icing to pipe small dots at the center of each violet. Let set overnight. Peel the flowers off the parchment and apply onto the cake with soft royal icing. Place bunches of small violets around the outside of the cake where each of the swags meet and single violets around the base of the cake. With a small leaf tip and the green royal icing, pipe small leaves in the violets.

For advice on piping the pearl border, see page 1054.

YELLOW CAKE WITH DAISIES

MAKES 100 SERVINGS

INGREDIENT	U.S.	METRIC
Chiffon Sponge (page 311), 4 in/10 cm high, 14-in/36-cm diameter round, filled and seal-coated	1	1
Chiffon Sponge (page 311), 6 in/15 cm high, 8-in/20-cm diameter round, filled and seal-coated	1	1
Rolled Fondant (page 1028), cream	2 lb 12 oz	1.25 kg
Rolled Fondant (page 1028)	2 lb	910 g
Dragées (page 935)	48	48
Shortening	As needed	As needed
Rolled Fondant (page 1028), dark brown	8 oz	230 g
Dowels	6	6

1. Wrap the 14-in/36-cm cake with approximately 1 lb 8 oz/680 g cream-colored fondant. Wrap the 8-in/20-cm cake with approximately 1 lb 4 oz/570 g cream-colored fondant.

2. To make the flowers: These flowers need to be made a day before so that they have time to dry for easier application.

3. Roll the fondant as thin as you can roll it by hand or use a pasta machine and roll down to number 4.

4. Using 2½-in/6-cm and 1-in/3-cm cutters to make both large and small flowers. For the large flowers, cut four 2½-in/6-cm cutouts. Thin the edges slightly. Glue one cutout to the other using a small amount of water. Set these flowers into an egg carton to dry with a curve. Once in the egg carton, glue 3 dragées in an appropriate color to the center. You can use a small dot of royal icing to secure them to the middle.

5. For the smaller flowers, make sixteen 1-in/3-cm cutouts, press into the egg carton, and glue a single dragée to the center. Allow both flowers enough time to dry before attaching them to the cake. This will give them some dimension.

6. Rub a 17-in/43-cm round wooden board with shortening.

7. Roll the dark brown fondant to ⅛ in/0.3 cm thick, lay over the board, and smooth out. Trim the fondant at the bottom of the board with a paring knife and attach a ¼-in/0.6-cm dark brown ribbon at the edge to hide any inconsistencies. A small dot of hot glue can secure the two ends of the ribbon.

8. Cut the wooden dowels to support the top tier of cake. These dowels should be placed under top tier cake but as close to the edge as possible (see "Doweling a Cake," page 1033). Five should be spaced around the inside of the circumference of the top tier cake and the sixth should be placed in the middle.

9. Carefully stack the 8-in/20-cm cake on top of the bottom tier, making sure to hide all of the dowels with the cake. The cake should be placed in the center of the cake below.

10. Apply a ½-in/1-cm ribbon to the bottom of each cake by slightly moistening the bottom edge of the cake.

11. Apply the daisies by moistening the spot where the daisies are going to be placed with water and gently pressing the daisy onto the moist fondant. Royal icing could also be used, taking care not to use too much. The "glue" should not show under the flower.

CHEF'S NOTE

The cakes pictured have 4 layers of cake and 3 layers of filling in the bottom tier and 6 layers of cake and 5 layers of filling in the top tier. The bottom tier contains 1 lb 8 oz/680 g light mousse filling while the top tier contains 1 lb 4 oz/570 g light mousse filling.

TIFFANY BOX CAKE

MAKES 24 SERVINGS

INGREDIENT	U.S.	METRIC
Royal Icing (page 1014)	1 lb	450 g
Rolled Fondant (page 1028), bright blue	3 lb	1.36 kg
Rolled Fondant (page 1028), pale blue	2 lb	910 g
Chiffon Sponge (page 311), 8 by 8 by 4-in/20 by 20 by 10-cm square, filled and seal-coated	1	1
Cake board 10-in/25-cm square, covered with white fondant	1	1
Edible pearl or luster dust	As needed	As needed
Rolled fondant strips (see page 1028), white, 1¼ by 9 in/3 by 23 cm, ⅛ in/0.3 cm thick	4	4
Pastillage, fondant, or gum paste loops (see "Fondant Bow," page 1009), white, 1¼ in/3 cm wide	18	18
Pastillage, fondant, or gum paste ribbon ends (see "Fondant Bow," page 1009), white, 1¼ in/3 cm wide	2	2

1. Roll out the bright blue fondant ⅛ in/0.3 cm thick. Carefully cover the cake with the fondant and smooth the top and sides. Trim the fondant from the bottom edge of the cake.

2. Roll out the pale blue fondant to ⅛ in/0.3 cm thick. Carefully cover the top and 1 in/3 cm down the sides of the cake; trim the fondant to an even edge. Roll thin ropes of the bright blue fondant and attach with royal icing to outline the top and bottom edges and the corners of the pale blue fondant "box top."

3. Attach the cake to the cake board with a touch of royal icing.

4. Pipe small pearls of royal icing around the base of the cake using a #7 plain tip. After the icing border has completely dried, brush it with pearl dust.

5. To wrap the "ribbon" around the box, place the each of the fondant strips in the center of a side of the cake, meeting in the top center of the cake. Trim the ends at the top so they do not overlap. Adhere the strips with a touch of royal icing. Brush the strips with pearl dust.

6. Brush the two bow ends and the fully dried bow with pearl dust. Create a bow by attaching the loops together with royal icing. Prop up the loops with pieces of balled-up plastic wrap until the bow has completely dried. Fasten the bow ends to the center of the cake with a touch of royal icing. Fasten the bow on top of the ends with more royal icing.

CHEF'S NOTE

When piping the pearl border, use a round tip. The icing should be smooth but not too soft. Squeeze the icing out of the bag, making sure your tip is just touching the surface. The action is to push out the icing, then stop and move on to the next pearl.

CHOCOLATE TIERED CAKE

MAKES 165 SERVINGS

INGREDIENT	U.S.	METRIC
Royal Icing (page 1014)	1 lb	450 g
Chocolate fondant	10 lb	4.54 kg
Dowels	15	15
Chocolate Chiffon Sponge (page 311), 4 in/10 cm high, 8-, 12-, and 16-in/20-, 30-, and 41-cm rounds, filled and seal-coated	1	1
Cake board, 20-in/51-cm round, covered in chocolate fondant, with a brown ribbon around outer edge	1	1
Dark Modeling Chocolate (page 1014)	2 lb	910 g
Edible gold powder	As needed	As needed
Clear alcohol	As needed	As needed
Dark modeling chocolate roses (see page 990), large	15–20	15–20
Dark modeling chocolate roses (see page 990), small	4–5	4–5
Dark modeling chocolate leaves (see page 990)	12	12
Dark modeling chocolate buds (see page 990)	4–5	4–5
Dark chocolate, melted, tempered	As needed	As needed

1. Roll out the chocolate fondant ⅛ in/0.3 cm thick. Carefully cover the cake with the fondant and smooth the top and sides. Trim the fondant from the bottom edge of the cake.

2. Place 1 dowel in the center of the cake. Form an oval pattern with another 8 dowels, placing 2 at the top, 2 on either side, and 2 at the bottom, making sure that each dowel is approximately 3 in/8 cm from the outer edge of the cake.

3. Repeat the covering, trimming, and doweling process with the other two cakes, using 6 dowels for the 12-in/30-cm cake and none for the 8-in/20-cm cake.

4. Attach the 16-in/41-cm cake to the cake board with a touch of royal icing.

5. Stack the cakes in descending size order, attaching each with a touch of royal icing and making sure to center each cake on its base.

6. Roll the dark modeling chocolate into a log. Flatten the log with a rolling pin to 2 in/5 cm thick. Roll the band to ⅛ in/0.3 cm thick. Using a line-textured rolling pin, apply the texture to the band. Cut the band into 1-in/3-cm-wide strips. Wrap a dark chocolate band around the base of each cake, smoothing the seams. Retexture the seam areas as necessary. Embellish the top edge of each band with a thin line of gold dust applied with clear alcohol.

7. Create a large spray of roses and leaves for the top of the cake and secure with tempered chocolate. Create smaller sprays of roses and leaves placed randomly at the base of each tier.

LINK TWIST CAKE

MAKES 150 SERVINGS

INGREDIENT	U.S.	METRIC
Royal Icing (page 1014)	2 lb	910 g
Rolled Fondant (page 1028), pink	5 lb	2.27 kg
Dowels	21	21
Chiffon Sponge (page 311), 4 in/10 cm high 7-, 11-, and 15-in/18-, 28-, and 38-cm rounds, filled and seal-coated	1	1
Cake board, 20-in/51-cm round covered in pale pink fondant, with white ribbon around the outer edge	1	1
Gum Paste roses (see page 1004), dark red, large	5	5
Gum Paste rosebuds (see page 1004), dark red	3	3
Gum Paste leaves (see page 991), green	8	8
Pressed sugar vase	1	1
Gum Paste link twist (see page 1003), pink	45	45
Silver dragées	45	45

1. Roll out the fondant ⅛ in/0.3 cm thick. Carefully cover the cake with the fondant and smooth the top and sides. Trim the fondant from the bottom edge of the cake. Place 2 dowels in the center of the cake. Then form a circular pattern with 10 more dowels, placing 3 at the top, 2 on either side, and 3 at the bottom, making sure that each dowel is approximately 3 in/8 cm from the outer edge of the cake.

2. Repeat the covering and doweling process with the other 2 cakes, using 9 dowels for the 11-in/28-cm cake, and none for the 7-in/18-cm cake.

3. Place the 15-in/38-cm cake on the cake board and attach with a touch of royal icing.

4. Stack the cakes in descending size order, attaching each with a touch of royal icing and making sure to center each cake on its base.

5. Create a spray of gum paste roses, buds, and leaves for the sugar vase, place in the center of the top tier, and secure with a touch of royal icing.

6. Pipe a pearl border of royal icing around the base of each tier, using a #7 plain tip. About 1 in/3 cm down from the top of each tier, adhere the link twists 2½ in/6 cm apart using royal icing.

7. Using a #1 plain tip, pipe strings of royal icing to create swags between the tops of the link twists.

8. Pipe strings of royal icing to create swags around the side of each cake, connecting at the base of the link twists. Repeat two times so that there are 3 strings connecting each link twist. Begin with the lowest string, then work up to the shortest. Using royal icing, secure a silver dragée to the tip of each link twist where these strings meet.

CHEF'S NOTE:

Pressed sugar can be made with granulated sugar and water. Add just enough water for the sugar to hold its shape when squeezed in your hand, then pack it into a tea cup, all the way to the top. Put a piece of cardboard on top of the cup and invert. Remove the cup (the sugar should hold its shape). Allow to dry for about 45 minutes, and then carefully turn it right-side-up. Hold the sugar and gently scoop out the soft sugar in the center to create a vase. Let the vase continue to dry for several hours before securing your flowers with royal icing.

DRAPES AND SWAGS CAKE

MAKES 208 SERVINGS

INGREDIENT	U.S.	METRIC
Royal Icing (page 1014)	2 lb	910 g
Rolled Fondant (page 1028)	15 lb	6.8 kg
Dowels	31	31
Chiffon Sponge (page 311), 4 in/10 cm high, 6-, 8-, 10-, 12-, and 14-in/15-, 20-, 25-, 30-, and 36-cm rounds, filled and seal-coated	1	1
Cake board, 16-in/41-cm round, covered in white fondant, with a white ribbon around outer edge	1	1
Fondant swags (see page 1003), purple, 4 in/10 cm	5	5
Fondant swags (see page 1003), purple, 4½ in/11 cm	7	7
Fondant swags (see page 1003), purple, 6½ in/17 cm	8	8
Gum Paste bows (see page 1009), purple	20	20
White modeling chocolate roses (see page 990), purple, small	7	7
Chocolate Dome (page 1013)	1	1

1. Roll out the fondant ⅛ in/0.3 cm thick. Carefully cover the cake with the fondant and smooth the top and sides. Trim the fondant from the bottom edge of the cake. Place 2 dowels in the center of the cake. Then form a circular pattern with 10 more dowels, placing 3 at the top, 2 on either side, and 3 at the bottom, making sure that each dowel is approximately 3 in/8 cm from the outer edge of the cake.

2. Repeat the covering and doweling process with the other 4 cakes, using 9 dowels for the 12-in/30-cm cake, 6 for the 10-in/25-cm cake, 4 for the 8-in/20-cm cake, and none for the 6 in/15-cm cake.

3. Attach the 14-in/36-cm cake to the cake board with a touch of royal icing.

4. Stack the cakes in descending size order, attaching each with a touch of royal icing and making sure to center each cake on its base.

5. Using water to make the ends tacky, attach the swags to the sides of the 14-in/36-cm, 10-in/25-cm, and 6-in/15-cm tiers.

6. Attach the gum paste bows between the swags with royal icing. Pipe a pearl border around each tier at the bottom, using royal icing with a #7 piping tip.

7. Using royal icing with a #1 piping tip, pipe a Swiss dot (pearls) design 1½ in/4 cm apart on the 12-in/30-cm and 8-in/20-cm tiers.

8. Attach roses and rose buds to the chocolate dome with royal icing, creating the centerpiece for the top tier.

PAINTED ROSE CAKE

MAKES 38 SERVINGS

INGREDIENT	U.S.	METRIC
Rolled Fondant (page 1028)	2 lb	1 kg
Chiffon Sponge (page 311), 4 in/10 cm high, 10-in/25-cm round, filled and seal-coated	1	1
Cake board, 12-in/30-cm round, covered in white fondant with a white ribbon around outer edge	1	1
Royal Icing (page 1014)	As needed	As needed
Fondant ribbon roses (see page 1011), pale pink	8	8
Fondant ribbon roses (see page 1011), deep pink	8	8
Fondant leaves (see page 991), green	10	10
Clear alcohol	2 oz	60 g
Powdered food color: pink, magenta, leaf green, and brown	As needed	As needed
Rolled Fondant (page 1028), green	14 oz	400 g
Rolled Fondant (page 1028), brown	8 oz	230 g

1. Roll out the fondant ⅛ in/0.3 cm thick. Carefully cover the cake with the fondant and smooth the top and sides. Trim the fondant from the bottom edge of the cake.

2. Attach the cake to the cake board with a touch of royal icing.

3. Create the centerpiece by attaching the roses and leaves to a ball of fondant or chocolate dome, using royal icing.

4. Using clear alcohol, liquefy the food colors and paint vines, leaves, and thorns on the sides of the cake. Paint circles of pink for the rose bases and indicate petals with magenta.

5. Roll a rope of green fondant ½ by 45 in/1 by 114 cm and a rope of brown fondant ¼ by 45 in ½ by 114 cm, and lay them in a zigzag design for the border on top, attaching with water.

6. For the bottom border, roll a rope of brown fondant ½ in/1 cm and attach to the base of the cake with water. Roll a rope of green fondant ½ in/1 cm and lay around the brown. Crimp the two together by hand-forming a scalloped edge.

APPENDIX A

Elemental Recipes

EGG WASH

MAKES 16 FL OZ/480 ML

INGREDIENT	U.S.	METRIC
Eggs	8 oz	230 g
Milk	8 oz	230 g
Salt	Pinch	Pinch

Combine the eggs, milk, and salt using a wire whip.

CHEF'S NOTES

There are infinite variations possible from this basic egg wash to best suit different uses and tastes. For example, water or cream can be substituted for some or all of the milk.

Egg yolks can be substituted for all or a portion of the whole eggs.

Sugar can also be added.

PAN GREASE

MAKES 3 LB/1.36 KG

INGREDIENT	U.S.	METRIC
Shortening	1 lb	450 g
Bread flour	1 lb	450 g
Vegetable oil	1 lb	450 g

Blend the shortening and flour with the paddle attachment on low speed until a smooth paste forms. Gradually add the oil and blend until smooth.

CHEF'S NOTES

Coat the inside of cake and loaf pans with the mixture to create a nonstick surface.

PESTO

MAKES 1 LB 2 OZ/510 G

INGREDIENT	U.S.	METRIC
Pine nuts	2½ oz	70 g
Garlic	½ oz	14 g
Basil leaves	6 oz	170 g
Parmesan, grated	3½ oz	100 g
Ground black pepper	1 tsp	2 g
Salt	2 tsp	12 g
Olive oil	6 oz	170 g

1. Combine the pine nuts, garlic, basil, Parmesan, pepper, and salt in a food processor fitted with a metal blade. Process to blend.
2. Add the olive oil with the processor running and process until smooth.

PINEAPPLE CHIPS

MAKES APPROXIMATELY 180 CHIPS

INGREDIENT	U.S.	METRIC
Pineapple, peeled, trimmed, and cut into 1⁄16-in/0.15-cm slices	2	2
Simple syrup (page 1079)	1 lb	450 g

1. Place the pineapple slices on silicone baking mats and brush with the simple syrup.

2. Bake at 180°F/82°C until crisp and dry, about 3 hours. Store in an airtight container.

TOMATO SAUCE

MAKES 2 LB 5 OZ/1.05 KG

INGREDIENT	U.S.	METRIC
Olive oil	2 oz	60 g
Yellow onions, small dice	4 oz	110 g
Garlic, minced	1¼ oz	40 g
Tomato concassé (see page 829)	1 lb 12 oz	790 g
Sugar	½ oz	14 g
Dried basil	1 tbsp plus ½ tsp	10 g
Dried oregano	1 tbsp plus ½ tsp	10 g
Dried tarragon	1 tbsp plus ½ tsp	10 g
Salt	As needed	As needed
Ground black pepper	As needed	As needed

1. Heat the oil in a sauteuse over medium heat. Sauté the onions until translucent and tender. Add the garlic and sauté for 2 minutes.

2. Add the remaining ingredients and simmer for 25 minutes.

3. Cool the tomato sauce over an ice water bath. Store covered under refrigeration.

SACHET D’ÉPICES

MAKES 1 SACHET

INGREDIENT	U.S.	METRIC
Parsley stems	4	4
Thyme leaves	½ tsp	1 g
Bay leaf	1	1
Peppercorns, cracked	½ tsp	1 g
Garlic clove, crushed	1	1

Place all the ingredients on a piece of cheesecloth approximately 4-in/10-cm square. Gather up the edges and tie with butcher’s twine, leaving a long tail of string to tie to the pot handle.

ALMOND FILLING

MAKES 3 LB 8 OZ/1.59 KG

INGREDIENT	U.S.	METRIC
Almond paste	1 lb	450 g
Butter	1 lb	450 g
Eggs	1 lb	450 g
Cake flour	8 oz	230 g

1. Cream together the almond paste and butter with the paddle attachment on medium speed until smooth, about 5 minutes.
2. On low speed, add the eggs one at a time, scraping down the bowl after each addition. Once the egg is fully incorporated, add another until all the eggs have been added.
3. Add the flour and mix on low speed until fully incorporated.
4. Store in an airtight container under refrigeration.

ALMOND-CASSIS FILLING

MAKES 1 LB 5¼ OZ/600 G, ENOUGH FILLING FOR 1 COFFEE CAKE

INGREDIENT	U.S.	METRIC
Almond paste	10½ oz	300 g
Baker's sugar	5¼ oz	150 g
Egg yolks	2 oz	60 g
Cassis (black currant) purée	3½ oz	100 g

Combine all the ingredients and mix with the paddle attachment on medium speed until a uniform paste is obtained, about 5 minutes. Store in an airtight container under refrigeration.

CHEESE DANISH FILLING

MAKES 4 LB 10 OZ/2.10 KG

INGREDIENT	U.S.	METRIC
Cream cheese	3 lb	1.36 kg
Sugar	12 oz	340 g
Cornstarch	6 oz	170 g
Lemon zest, grated	1 tsp	3 g
Orange zest, grated	1 tsp	3 g
Vanilla extract	1 tbsp	15 mL
Eggs	8 oz	230 g

1. Cream together the cream cheese, sugar, cornstarch, lemon and orange zests, and vanilla with the paddle attachment on medium speed until light and smooth.
2. Add the eggs gradually, scraping down the bowl periodically, until fully blended.
3. Store under refrigeration if not using immediately. Fill pastries as desired and bake.

CHOCOLATE FILLING

MAKES 2 LB/910 G

INGREDIENT	U.S.	METRIC
Butter, melted	11¾ oz	330 g
Light brown sugar	11¼ oz	320 g
All-purpose flour	1½ oz	40 g
Cocoa powder	1½ oz	40 g
Honey	2 oz	40 g
Eggs	5 oz	140 g
Vanilla extract	2 tsp	10 mL

1. Make the filling the day before needed. In a mixer fitted with the paddle attachment, mix the butter and sugar on medium speed for 2 minutes or until completely combined.

2. Add the flour, cocoa powder, and honey and mix on medium speed until completely combined, scraping the bowl occasionally. Blend in the eggs and vanilla extract.

3. Refrigerate in a covered container until needed.

CREAM CHEESE FILLING

MAKES 1 LB 4 OZ/570 G

INGREDIENT	U.S.	METRIC
Cream cheese	1 lb	450 g
Confectioners' sugar	4 oz	110 g
Vanilla extract	1 oz	30 g
Lemon zest, grated	1 tsp	3 g

1. Cream together the cream cheese, confectioners' sugar, vanilla extract, and lemon zest with the paddle attachment on medium speed, scraping down the bowl periodically, until smooth in texture and light in color, about 5 minutes.

2. Store under refrigeration if not using immediately. Pipe or otherwise deposit to fill pastries before baking.

HAZELNUT FILLING

MAKES 6 LB/2.72 KG

INGREDIENT	U.S.	METRIC
Almond paste	1 lb	450 g
Sugar	1 lb	450 g
Butter	1 lb	450 g
Hazelnuts, lightly toasted and finely ground	3 lb	1.36 kg
Ground cinnamon	½ oz	14 g

1. Blend the almond paste with the sugar with the paddle attachment on medium speed until light and smooth. Add the butter and blend on medium speed until smooth. Add the hazelnuts and cinnamon and blend until fully combined.

2. Store under refrigeration if not using immediately. Fill pastries as desired and bake.

FRANGIPANE FOR FILLING

MAKES 2 LB 5½ OZ/1.08 KG

INGREDIENT	U.S.	METRIC
Almond paste	1 lb	450 g
Sugar	2½ oz	70 g
Eggs	8 oz	230 g
Butter	8 oz	230 g
Cake flour	3 oz	90 g

1. Cream together the almond paste and sugar; add a small amount of egg to be sure there are no lumps. Add the butter, then cream well. Gradually add the remaining eggs. Add the flour and mix until just combined.

2. Store under refrigeration if not using immediately. Use only as a filling for tart shells or pithiviers.

BRAISED PINEAPPLE

MAKES ENOUGH FOR APPROXIMATELY 40 DANISH

INGREDIENT	U.S.	METRIC
Pineapple	1	1
Orange juice	8 lb	3.63 kg
Sugar	1 lb	450 g

1. Cut both ends off the pineapple and cut off the skin. Cut the pineapple in quarters lengthwise. Cut along the pointed edge to cut out the core. Discard the skin and core if not using for Savarin Syrup, page 1079.

2. Place the pineapple in a hotel pan. Pour over the orange juice and sprinkle the sugar on top. Cover the hotel pan with foil. Braise in a 325°F/163°C convection oven until the pineapple is tender, about 45 minutes.

3. Let cool. Reserve the pineapple and braising liquid separately under refrigeration.

BRÛLÉE SUGAR BLEND

MAKES 1 LB/450 G

INGREDIENT	U.S.	METRIC
Granulated sugar	8 oz	230 g
Light brown sugar	8 oz	230 g

1. Combine the two sugars and spread out on a sheet pan. Allow to air-dry overnight. Process the sugar mixture in a food processor until very fine. Sift through a fine-mesh strainer.

2. Store tightly covered in a cool, dry place.

CANDIED ROSE PETALS

MAKES 20 PETALS

INGREDIENT	U.S.	METRIC
Rose petals, untreated	20	20
Pasteurized egg whites	2 oz	60 g
Superfine sugar	As needed	As needed

1. Lightly brush both sides of the petals with the egg whites.

2. Make an even layer of sugar approximately ¼ in/6 mm deep in a half sheet pan. Arrange the petals in the sugar, making sure they do not touch. Sprinkle additional sugar over the petals to cover completely.

3. Remove the petals from the sugar and place them on a clean parchment-lined sheet pan. Allow to air-dry, then use or store in an airtight container.

CHEF'S NOTES

Mint leaves or other untreated edible flowers may be processed in the same way.

CANDIED WALNUTS

MAKES 12 OZ/340 G WALNUTS

INGREDIENT	U.S.	METRIC
Walnuts	12 oz	340 g
White pepper	½ tsp	1 g
Cinnamon	½ tsp	1 g
Salt	2 tsp	12 g
Nutmeg	½ tsp	1 g
Cayenne	¼ tsp	.5 g
Egg white	1	1
Sugar	5¼ oz	150 g

1. Combine all of the ingredients and spread evenly on a sheet pan lined with a silicone baking mat. Bake in a 350°F/177°C oven until lightly browned.

2. Allow to cool completely. Crush into smaller pieces with a mortar and pestle.

CINNAMON SMEAR

MAKES APPROXIMATELY 4 LB/1.81 KG

INGREDIENT	U.S.	METRIC
Butter, melted	1 lb 7 oz	650 g
Dark brown sugar	1 lb 6 oz	620 g
Light corn syrup	2½ oz	70 g
Pastry flour	3 oz	90 g
Cinnamon, ground	3 oz	90 g
Eggs	9 oz	260 g
Vanilla extract	1½ tsp	7.5 mL

1. Combine the butter, brown sugar, and corn syrup and mix with the paddle attachment on medium speed until smooth, about 5 minutes.

2. Add the flour and cinnamon and mix on low speed until smooth, about 5 minutes. Add the eggs and vanilla a little at a time, scraping down the sides of the bowl regularly to ensure an even texture. Continue to mix until all of the wet ingredients are fully incorporated, about 2 minutes more.

3. Store under refrigeration if not using immediately. After refrigeration, batter must be softened by paddling before using.

VARIATION

Replace the corn syrup with 2½ oz/70 g honey.

CINNAMON SUGAR

MAKES 9 OZ/260 G

INGREDIENT	U.S.	METRIC
Sugar	8 oz	230 g
Ground cinnamon	1 oz	30 g

Blend the sugar and cinnamon until fully combined. Store in an airtight container at room temperature.

VARIATION

CINNAMON SUGAR (STRONG) *Reduce the sugar to 5 oz/140 g.*

CITRUS-FLAVORED SYRUP

MAKES 192 FL OZ/5.76 L

INGREDIENT	U.S.	METRIC
Water	8 lb	3.63 kg
Sugar	4 lb	1.81 kg
Orange, halved	1	1
Lemon, halved	1	1
Vanilla bean, split and scraped	1	1

1. Combine all the ingredients in a saucepan and stir to ensure all the sugar is moistened. Bring to a boil.

2. Simmer over medium heat for 15 minutes. Remove from the heat and cool completely.

3. Strain the syrup. Store, tightly covered, under refrigeration.

VARIATION

SPICED FLAVORED SYRUP FOR CAKES

Add 1 nutmeg (cracked), 1 cinnamon stick, and 1 tbsp/6 g black peppercorns to the syrup with the vanilla bean.

COCONUT SHAVINGS

MAKES 1 LB 4 OZ/570 G

INGREDIENT	U.S.	METRIC
Coconut, halved	2	2
Simple syrup (page 1079)	8 oz	230 g

1. Place the coconut halves on a sheet pan. Bake at 350°F/177°C until the flesh just begins to pull away from the shells, 5 to 7 minutes. Cool completely.

2. Remove the coconut flesh from the shells and remove the brown skin. Using a vegetable peeler, shave strips 2 in/5 cm long from the flesh.

3. Toss the coconut shavings with the simple syrup, then drain any excess syrup.

4. Spread the coconut shavings on a parchment-lined sheet pan. Bake in a 350°F/177°C deck oven until lightly toasted, 8 to 10 minutes.

5. Allow the coconut shavings to cool to room temperature. Store in an airtight container at room temperature.

COFFEE CONCENTRATE

MAKES 64 FL OZ/1.92 L

INGREDIENT	U.S.	METRIC
Dark-roast coffee beans, coarsely ground	1 lb	450 g
Water	4 lb, plus more as needed	1.81 kg, plus more as needed
Sugar	2 lb	910 g

1. Combine the coffee and water in a saucepan, bring to a boil, and boil for 10 minutes.

2. Strain through a fine-mesh sieve set over a bowl, then return the weight of the liquid to 4 lb/1.81 kg by pouring additional hot water through the coffee grounds.

3. Combine the sugar and 1 lb/450 g of the coffee mixture in a saucepan and bring to a boil, stirring to dissolve the sugar. Continue cooking until the sugar caramelizes.

4. Gradually add the remaining coffee mixture to the caramel. Continue cooking until the mixture reaches 325°F/163°C. Cool completely. Store in an airtight container at room temperature.

CHEF'S NOTES

Use sparingly to flavor buttercreams, syrups, and mousses.

DANISH GLAZE

MAKES 25½ FL OZ/765 ML

INGREDIENT	U.S.	METRIC
Apricot jam	9 oz	260 g
Water	6 oz	170 g
Light corn syrup	9 oz	260 g
Liquor (such as rum)	1½ oz	40 g

Combine all the ingredients in a saucepan and stir. Bring to a boil, stirring to incorporate.

CHEF'S NOTES

Use the glaze while it is still warm, applying it to the items with a pastry brush.

GELATIN SOLUTION

MAKES 7 OZ/200 G

INGREDIENT	U.S.	METRIC
Water, cold	6 oz	170 g
Gelatin, granulated	1 oz	30 g
Water, cold	6 oz	170 g

1. Bloom the gelatin in the water for 5 minutes.

2. Heat the bloomed gelatin over a warm water bath until fully dissolved.

3. Store, tightly covered, under refrigeration. Warm to melt and add to formula as desired.

CHEF'S NOTES

Use this solution to stabilize whipped cream used for filling or icing cakes and pastries.

Ratios for Granulated Gelatin per Quantity of Liquid

Per gallon/ 3.84 L	Per pint/ 480 mL	Gel strength
2 oz/60 g	¼ oz/7 g	Delicate gel
4 oz/110 g	½ oz/14 g	Coating gel
6–8 oz/ 170–230 g	1 oz/30 g	Sliceable gel
10–12 oz/ 280–340 g	1¼–1½ oz/35–43 g	Firm gel
16 oz/450 g	2 oz/60 g	Mousse strength

JAPONAIS MERINGUE

MAKES 4 LB/1.81 KG

INGREDIENT	U.S.	METRIC
Hazelnuts, finely ground	1 lb	450 g
Confectioners' sugar	1 lb	450 g
Egg whites	1 lb	450 g
Granulated sugar	1 lb	450 g

1. Combine the hazelnuts and confectioners' sugar; rub together well.

2. Place the egg whites in a bowl and whisk until frothy. Gradually add the granulated sugar while continuing to whip, then whip to stiff peaks.

3. Fold the hazelnut mixture into the meringue.

4. Pipe into the desired shapes and bake at 150° to 200°F/66° to 93°C until the meringue has hardened.

VARIATION

JAPONAIS ROUNDS *Makes 40 rounds (2 in/5 cm each)*

1. Before preparing the japonais, line a sheet pan with parchment paper. Trace forty 2-in/5-cm rounds on the paper and turn the paper over to avoid contact between the pen or marker and the batter.

2. Fill a piping bag fitted with a #2 tip with the meringue. Pipe dime-size mounds around the traced rounds, pulling up at the end of each dot to make a tail of batter. Continue piping around to fill in the entire 2-in/5-cm round. Bake as directed above.

LEMON CHIPS

MAKES APPROXIMATELY 20 CHIPS

INGREDIENT	U.S.	METRIC
Simple syrup (page 1079)	1 lb	450 g
Lemons, ends removed, cut into 1⁄16-in/0.15-cm slices	2	2

1. Bring the simple syrup to a boil. Poach the lemon slices for 1 minute, or until limp.

2. Spread the slices on a silicone baking mat on a sheet pan. Bake in a 180°F/82°C oven until crisp and dry, about 3 hours. Store in an airtight container.

VARIATIONS

ORANGE CHIPS *Substitute an equal number of oranges for lemons.*

APPLE CHIPS *Peel, core, and slice 2 apples into 1⁄16-in/0.15-cm slices. Substitute for the lemons and proceed with the recipe.*

CANDIED LEMON SLICES

MAKES ABOUT 20 SLICES, DEPENDING ON THE SIZE OF THE LEMON

INGREDIENT	U.S.	METRIC
Lemon	1	1
Sugar	1 lb 8 oz	680 g
Water	1 lb	450 g
Corn syrup	8 oz	230 g

1. Slice the lemon on a meat slicer ⅛ in/0.3 cm thick.

2. Place the lemon slices in a small nonreactive saucepot and cover with cold water. Slowly bring to a simmer over medium heat. Drain.

3. Combine the sugar, water, and corn syrup in a large nonreactive saucepot and bring to a boil. Turn down the heat so the syrup stays just below a simmer and add the lemon slices. Cook until translucent, 20 to 30 minutes.

4. Remove the pot from the heat and let the lemon slices cool in the syrup to room temperature, 70°F/21°C.

5. Remove the slices and drain on a wire rack for 20 minutes.

6. Place the lemon slices on a full sheet pan lined with a silicone baking mat and dry in the oven at 180°F/82°C overnight.

LEMON CURD CHIPS

MAKES 8 ACETATE STRIPS

INGREDIENT	U.S.	METRIC
Gelatin, sheet	½	½
Lemon juice	5 oz	140 g
Sugar	4¼ oz	120 g
Eggs	3½ oz	100 g
Egg yolks	3 oz	90 g
Salt	Pinch	Pinch
Butter, cubed, 70°F/21°C	3 oz	90 g

1. In a small bowl, cover the gelatin sheet with cold water. Let bloom until pliable, about 5 minutes. Squeeze out excess water.

2. Combine the lemon juice, sugar, eggs, egg yolks, and salt in the bowl of a mixer. Heat over a double boiler, stirring, until the mixture reaches 175°F/80°C.

3. Remove the bowl from the heat and stir in the gelatin. Let cool to 130°F/54°C, about 20 minutes.

4. Gradually add butter using immersion blender.

5. Cut 8 strips of acetate 3 in/8 cm wide and as long as will fit in the dehydrator. Spread a very thin layer of the lemon curd on the acetate. Place in the dehydrator overnight.

6. At the time of service, take out sheets and break off chips.

CHEF'S NOTES

Keep in the dehydrator until service or the chips will get soft very quickly.

POACHING LIQUID FOR FRUIT

MAKES 34 FL OZ/1.02 L

INGREDIENT	U.S.	METRIC
Wine	1 lb 8 oz	680 g
Water	10 oz	280 g
Sugar (optional; use with tart fruit)	4 oz	110 g
Cinnamon stick	1	1
Cloves	6	6

1. Combine all the ingredients and bring to a simmer.

2. Peel fruit and shape, if necessary. Cook the fruit in the poaching liquid until tender. Cool the fruit in the liquid. Store under refrigeration in the poaching liquid.

CHEF'S NOTES

To vary the flavor of the poaching liquid, try different types of wine (red or white), or add fruit purée or juice to the poaching liquid.

You can also use different types of spices: nutmeg, peppercorns, or allspice, for example.

Add saffron to light-colored poaching liquids to impart flavor and a golden yellow color to the fruit.

PORT POACHING LIQUID

MAKES 52 FL OZ/1.56 L

INGREDIENT	U.S.	METRIC
Port	2 lb	910 g
Sugar	1 lb 4 oz	570 g
Cinnamon stick	½	½
Vanilla bean, split	1	1
Orange zest, grated	¾ oz	20 g

1. Combine all the ingredients in a saucepan and bring to a simmer, stirring to dissolve the sugar.

2. Add peeled and prepped fruit to the simmering liquid and poach until slightly underdone. Cool the fruit in the liquid. Store under refrigeration in the poaching liquid.

POACHED CRANBERRIES

MAKES 1 LB 8 OZ/680 G

INGREDIENT	U.S.	METRIC
Simple syrup (page 1079)	3 lb	1.36 kg
Cranberries	1 lb	450 g

1. Heat the simple syrup to a simmer.

2. Add the cranberries and continue to simmer for 10 minutes.

3. Remove from the heat and cool completely. Store the cranberries in the syrup under refrigeration until ready to use.

POACHED PEARS

MAKES 12 POACHED PEARS

INGREDIENT	U.S.	METRIC
Water	4 lb 11 oz	2.13 kg
Sugar	15 oz	430 g
Lemon juice	7 lemons	7 lemons
Pears, d'Anjou	12	12

1. Combine the water, sugar, and lemon juice in a pot large enough to hold the pears. Bring the liquid to a boil over high heat. Boil for 1 minute. Reduce the heat to medium.

2. Meanwhile, trim the bottom of each pear to make it flat, core out the bottom with a melon baller, and peel with a sharp paring knife; leave the stem attached. Once a pear is prepped, submerge it immediately in ice water acidified with lemon juice.

3. Once all of the pears are prepped, place them in the poaching liquid and simmer for 30 to 60 minutes at 190° to 200°F/88° to 93°C. Make sure the pears are completely submerged; use a plate and parchment paper if necessary to weigh them down. Once the pears have become slightly tender, remove the pot from the heat and let the pears sit in the poaching liquid until tender, about 1½ hours.

4. Cool the pears to room temperature in the poaching liquid. Reserve, covered, under refrigeration.

CHEF'S NOTES

For the Pear with Thai Jewels (page 879) plated dessert, soak the pears in the Banana Passion Fruit Broth (page 543) overnight. Make sure they are completely submerged.

For the poached pear gelée for the Carrot Cake (page 294), strain the poaching liquid through cheese cloth and set enough liquid to make a ⅓-inch layer in a 6-inch cake pan using the Ratios for Granulated Gelatin per Quantity of Liquid table on page 1073.

POACHED RAISINS

MAKES 1 LB 8 OZ/680 G, ENOUGH FOR 80 PAINS AUX RAISINS

INGREDIENT	U.S.	METRIC
Dark raisins	8 oz	230 g
Golden raisins	8 oz	230 g
Sugar	2 lb	910 g
Water	2 lb	910 g
Orange, skin only	2	2
Cinnamon sticks	3	3

1. Combine all the ingredients in an 8-quart pot. Bring to a boil over high heat.

2. Once boiling, take the pot off the heat and cover with plastic wrap. Let sit for 1 hour.

3. Transfer the liquid and raisins to an airtight container and refrigerate.

4. When ready to use, strain the needed amount of raisins out of the liquid and pat dry with paper towels.

ROASTED BLACK MISSION FIGS

MAKES APPROXIMATELY 2 LB 3 OZ/990 G

INGREDIENT	U.S.	METRIC
Black mission figs, very ripe	1 lb 1½ oz	500 g
Sugar	14 oz	400 g
Dry port	3½ oz	100 g
Cinnamon stick (optional)	3	3
Cloves (optional)	1 tsp	2 g
Vanilla bean, split and scraped (optional)	1	1
Orange, zested (optional)	1 orange	1 orange

1. Trim the stem end and bottom of the figs. Cut an X in the top and bottom of each fig.

2. Place each fig in a standing position in a hotel pan. Sprinkle the sugar on top. Pour the port over the figs. Add the spices and other flavorings, if using. Roast in a 325°F/163°C convection oven until the figs are just tender, about 20 minutes.

3. Let the figs cool in the pan.

4. Reserve the figs and roasting liquid, covered, under refrigeration.

SAFFRON POACHING LIQUID

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
White wine	2 lb 4 oz	1.02 kg
Lemon juice	1½ oz	40 g
Cinnamon stick	1	1
Cloves	6	6
Sugar	5 oz	140 g
Saffron threads	Pinch	Pinch

1. Combine all the ingredients in a saucepan and bring to a simmer, stirring to dissolve the sugar.

2. Add peeled and prepped fruit to the simmering liquid and poach until slightly underdone. Cool the fruit in the liquid. Store under refrigeration in the poaching liquid.

SIMPLE SYRUP

MAKES 2 LB/910 G

INGREDIENT	U.S.	METRIC
Sugar	1 lb	450 g
Water	1 lb	450 g

Combine the sugar and water in a saucepan and stir to ensure all the sugar is moistened. Bring to a boil, stirring to dissolve the sugar. Store covered in the refrigerator until needed.

CHEF'S NOTES

Simple syrup may be made with varying ratios of sugar to water, depending on the desired use and the sweetness and flavor of the cake or pastry to which it is to be applied.

VARIATIONS

COFFEE SIMPLE SYRUP *After the sugar and water come to a boil, add 1 oz/30 g ground coffee. Remove the pan from the heat, cover, and steep for 20 minutes. Strain to remove the grounds.*

LIQUEUR-FLAVORED SIMPLE SYRUP *To flavor simple syrup with a liqueur such as framboise, kirsch, or Kahlúa, add 4 oz/110 g of the desired liqueur to the syrup after it has cooled completely.*

LIQUOR-FLAVORED SIMPLE SYRUP *To flavor simple syrup with a liquor such as brandy or rum, add 2 oz/60 g of the desired liquor to the syrup after it has cooled completely.*

VANILLA SIMPLE SYRUP *After the sugar and water comes to a boil, add 1 vanilla bean, split and scraped. Remove the pan from the heat, cover, and steep for 20 minutes. Strain to remove the vanilla bean pod.*

STABILIZER SOLUTION FOR WHIPPED CREAM

MAKES 32 FL OZ/960 ML

INGREDIENT	U.S.	METRIC
Gelatin, granulated	1 oz	30 g
Cold water	1 lb	450 g
Hot water	1 lb	450 g

1. Bloom the gelatin in the cold water. Add the hot water and stir to dissolve the gelatin. Cover tightly and store under refrigeration.

2. To use, melt 3 oz/90 g of the gelatin mixture and add to 16 oz/450 g of heavy cream. Whip to desired peaks.

STREUSEL TOPPING

MAKES 4 LB/1.81 KG

INGREDIENT	U.S.	METRIC
Butter	1 lb	450 g
Sugar	1 lb	450 g
Bread flour	2 lb	910 g
Ground cinnamon	1 tbsp	6 g

1. Cream the butter and sugar together with the paddle attachment on medium speed until light and fluffy.

2. Add the flour and cinnamon and mix to a rough crumb. Store under refrigeration.

CINNAMON STREUSEL

MAKES 1 LB 2 OZ/510 G

INGREDIENT	U.S.	METRIC
Butter	4¼ oz	120 g
Pastry flour	8¾ oz	250 g
Sugar	4¼ oz	120 g
Ground cinnamon	1¼ tsp	7 g
Salt	¾ tsp	4.5 g

1. Combine all of the ingredients in a mixer. Using a paddle attachment, mix until fully blended. Chill for about 1 hour.

2. Line a sheet pan with parchment paper and place a grid-patterned wire rack on top of the pan. Pass the streusel through the wire rack, pushing it through with your hands. (This will help obtain evenly sized morsels.)

3. Bake in a 320°F/160°C convection oven until golden brown, 8 to 10 minutes.

4. Cool to room temperature. Once cool, reserve in an airtight container for up to a month.

VANILLA SUGAR

MAKES 1 LB/450 G

INGREDIENT	U.S.	METRIC
Vanilla bean, split	1	1
Sugar	1 lb	450 g

Place the vanilla bean and sugar in a lidded jar, cover tightly, and shake well. Let stand for at least 1 week before using.

CHEF'S NOTES

Vanilla sugar can also be made using confectioners' sugar.

Vanilla beans used to infuse custards, sauces, and other liquids can be used to make vanilla sugar if first rinsed and allowed to thoroughly air-dry.

WALNUT PRALINE PASTE

MAKES 4 LB/1.81 KG

INGREDIENT	U.S.	METRIC
Walnuts, lightly toasted and roughly chopped	2 lb	910 g
Sugar	2 lb	910 g

1. Spread the walnuts on a marble surface.

2. Place the sugar in a heavy-bottomed saucepan and cook over medium heat, stirring constantly, to a rich golden brown.

3. Pour the caramel over the walnuts. Cool to room temperature.

4. Break up the praline and grind to a soft paste in a food processor. Store in an airtight container at room temperature.

BIEBER SPICE

MAKES 2 LB 6 OZ/1.08 KG

INGREDIENT	U.S.	METRIC
Ground cinnamon	12 oz	340 g
Ground coriander	12 oz	340 g
Ground nutmeg	3 oz	90 g
Ground anise	6 oz	170 g
Ground cloves	4 oz	110 g
Ground ginger	1 oz	30 g

Combine all the spices. Store in an airtight container at room temperature.

LEBKUCHEN SPICE (GINGERBREAD SPICE)

MAKES 2 OZ/60 G

INGREDIENT	U.S.	METRIC
Ground cinnamon	1½ tbsp	9 g
Ground cloves	1 tbsp plus ½ tsp	7 g
Ground nutmeg	2 tsp	4 g
Ground anise	1½ tbsp	9 g
Ground ginger	1 tbsp plus ½ tsp	7 g
Ground fennel	1½ tbsp	9 g
Ground coriander	1½ tbsp	9 g

Combine all the spices. Store in an airtight container at room temperature.

SPICE MIX FOR PUMPKIN CRÈME BRÛLÉE

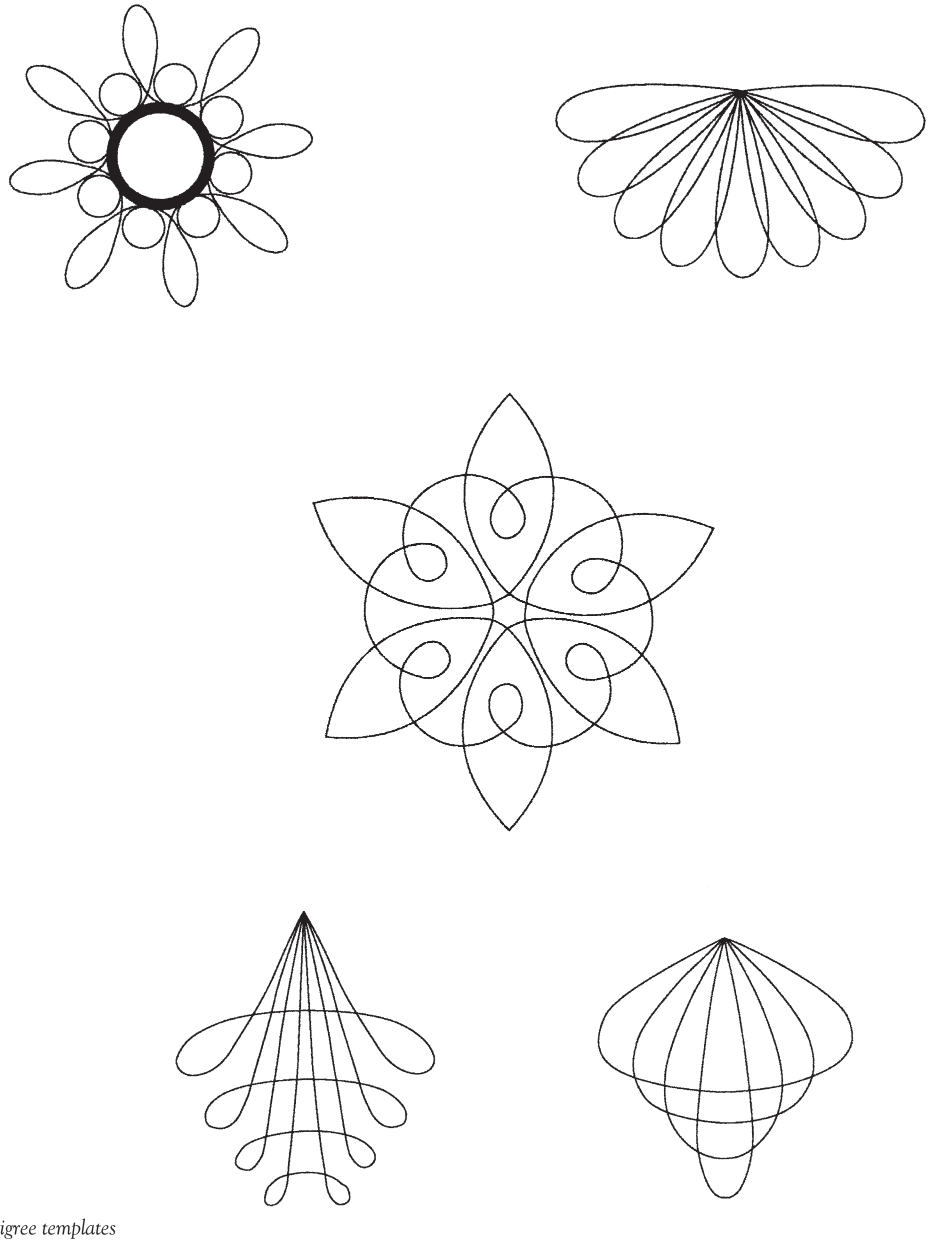
MAKES 1 LB 2 OZ/510 G

INGREDIENT	U.S.	METRIC
Brûlée sugar blend (page 1069)	8 oz	230 g
Light brown sugar	8 oz	230 g
Ground cinnamon	1 oz	30 g
Ground cloves	1 oz	30 g

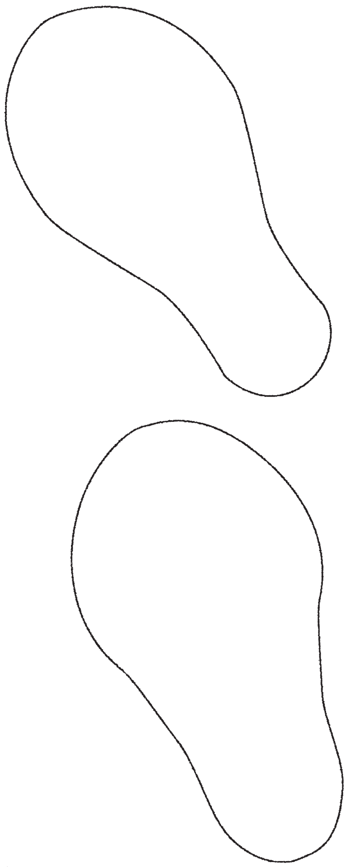
Thoroughly combine all of the ingredients. Store in an airtight container at room temperature.

APPENDIX B

Décor Templates



Filligree templates



Magnolia petals template

APPENDIX C

Conversions, Equivalents, and Calculations

Below are exact conversions to metric units of measure from U.S. units of measure. For the purposes of use in a professional kitchen, the metric measures in this book were rounded to the nearest 10 grams, with the exception of those ingredients such as leaveners where rounding would have an adverse effect on the finished product.

Exact measurement conversion was used for the following: small weight and volume ingredients (under ½ ounce), chemical and natural leaveners, salts, spices, herbs, flavored oils and fats, extract liquids, and all hydrocolloids.

WEIGHT MEASURE CONVERSIONS	
To convert U.S. weights to metric, multiply the number of ounces by 28.35.	
¼ oz	7 g
½ oz	14 g
1 oz	28 g
4 oz (¼ lb)	113 g
8 oz (½ lb)	227 g
16 oz (1 lb)	454 g
24 oz (1 lb 8 oz)	680 g
32 oz (2 lb)	907 g
40 oz (2 lb 8 oz)	1.13 kg
48 oz (3 lb)	1.36 kg
Metric values have been rounded.	

VOLUME MEASURE CONVERSIONS	
To convert U.S. volume to metric, multiply the number of fluid ounces by 30.	
1 tsp	5 mL
½ fl oz (1 tbsp)	15 mL
1 fl oz (2 tbsp)	30 mL
8 fl oz (1 c)	240 mL
16 fl oz (1 pt)	480 mL
32 fl oz (1 qt)	960 mL
128 fl oz (1 gal)	3.84 L
Dash (liquid) = less than ⅛ tsp	< 0.63 mL
Pinch (dry) = less than ⅛ tsp	< 0.63 mL
Metric values have been rounded.	

LENGTH MEASURE CONVERSIONS

To convert U.S. length to metric, multiply the number of inches by 2.54.

1⁄16 in	0.15 cm
⅛ in	0.3 cm
¼ in	0.6 cm
½ in	1 cm
1 in	3 cm
2 in	5 cm
4 in	10 cm
6 in	15 cm
7 in	18 cm
8 in	20 cm
9 in	23 cm
10 in	25 cm
12 in (1 ft)	30 cm

Metric values have been rounded to the nearest centimeter.

TEMPERATURE CONVERSIONS

To convert Fahrenheit to Celsius:
(°F − 32) × 5⁄9 = °C

Degrees Fahrenheit (°F)	Degrees Celsius (°C)
32	0
40	4
140	60
150	66
160	71
170	77
212	100
275	135
300	149
325	163
350	177
375	191
400	204
425	218
450	232
475	246
500	260

APPENDIX D

Readings and Resources Books Baking and Pastry Arts

The Baker's Manual, 5th ed. Joseph Amendola and Nicole Rees. John Wiley & Sons, 2003.

The Baker's Trade. Zachary Y. Schat. Acton Circle, 1998.

BakeWise: The Hows and Whys of Successful Baking with over 200 Magnificent Recipes. Shirley O. Corriher. Scribner, 2008.

Baking with Julia: Based on the PBS Series Hosted by Julia Child. Julia Child and Dorie Greenspan. William Morrow & Co., 1996.

The Bread Bible: Beth Hensperger's 300 Favorite Recipes. Beth Hensperger. Chronicle, 1999.

The Bread Builders: Hearth Loaves and Masonry Ovens. Daniel Wing and Alan Scott. Chelsea Green, 1999.

Buffets Sucrés: Sweet Buffets. Lenôtre School. C.H.I.P.S., 1997.

The Cake Bible, 8th ed. Rose Levy Beranbaum. William Morrow & Co., 1988.

The Chocolate Bible. Christian Teubner et al. Chartwell Books, 2004.

Chocolate Desserts by Pierre Hermé. Pierre Hermé and Dorie Greenspan. Little, Brown & Co., 2001.

The Classic and Contemporary Recipes of Yves Thuriès, French Pastry. Yves Thuriès. Rhona Poritzky Lauvand, trans. John Wiley & Sons, 1997.

The Classic and Contemporary Recipes of Yves Thuriès, Modern French Pastry. Yves Thuriès. Rhona Poritzky Lauvand, trans. John Wiley & Sons, 1997.

The Classic and Contemporary Recipes of Yves Thuriès, Restaurant Pastries and Desserts. Yves Thuriès. Rhona Poritzky Lauvand, trans. John Wiley & Sons, 1997.

Desserts by Pierre Hermé. Pierre Hermé, Dorie Greenspan, and Hartmut Kiefer. Little, Brown & Co., 1998.

English Bread and Yeast Cookery. Elizabeth David and Wendy Jones. National Book Network, 1995.

Flatbreads and Flavors: A Culinary Atlas. Jeffrey Alford and Naomi Duguid. Morrow/Avon, 1995.

Four-Star Desserts. Emily Luchetti. HarperCollins, 1996.

French Professional Pastry Series: Creams, Confections, and Finished Desserts. Roland Bilheux and Alain Escoffier. John Wiley & Sons, 1998.

French Professional Pastry Series: Decorations, Borders and Letters, Marzipan, Modern Desserts. Roland Bilheux and Alain Escoffier. John Wiley & Sons, 1998.

French Professional Pastry Series: Doughs, Batters, and Meringues. Roland Bilheux and Alain Escoffier. John Wiley & Sons, 1998.

French Professional Pastry Series: Petits Fours, Chocolate, Frozen Desserts, and Sugar Work. Roland Bilheux and Alain Escoffier. John Wiley & Sons, 1997.

French Professional Pastry Series: Special and Decorative Breads. Roland Bilheux, Alain Escoffier, Daniel Hervé, and Jean-Marie Pouradier. John Wiley & Sons, 1997.

Grand Finales: A Neoclassic View of Plated Desserts. Tish Boyle and Timothy Moriarty. John Wiley & Sons, 2000.

Grand Finales: The Art of the Plated Dessert. Tish Boyle and Timothy Moriarty. John Wiley & Sons, 1996.

The Making of a Pastry Chef. Andrew MacLauchlan. John Wiley & Sons, 1999.

A Modernist View of Plated Desserts (Grand Finales). Tish Boyle and Timothy Moriarty. John Wiley & Sons, 1997.

Nancy Silverton's Breads from the La Brea Bakery: Recipes for the Connoisseur. Nancy Silverton with Laurie Ochoa. Random House, 1996.

The New International Confectioner, 5th ed. Wilfred J. France. Virtue, 1987.

Les Pains et Viennoiseries: Bread, Viennese Breads, and Pastry. Lenôtre School. C.H.I.P.S., 1995.

La Pasticerria: Pastries, Cakes and Desserts. Stefano Laghi and Rossano Boscolo. C.H.I.P.S., 1996.

Patisserie: An Encyclopedia of Cakes, Pastries, Cookies, Biscuits, Chocolate, Confectionery and Desserts. Aaron Maree. HarperCollins, 1994.

The Pie and Pastry Bible. Rose Levy Beranbaum. Simon & Schuster, 1998.

Practical Baking. William J. Sultan. John Wiley & Sons, 1996.

The Professional Pastry Chef, 4th ed. Bo Friberg. John Wiley & Sons, 2002.

Les Recettes Fruitées: Recipes for Fruit. Lenôtre School. C.H.I.P.S., 1998.

Les Recettes Glacées: Ice Cream and Iced Desserts. Lenôtre School. C.H.I.P.S., 1995.

Simply Sensational Desserts: 140 Classic Desserts for the Home Baker from New York's Famous Patisserie and Bistro. Francois Payard et al. Broadway Books, 1999.

Special and Decorative Breads: Traditional, Regional and Special Breads, Fancy Breads—Viennese Pastries—Croissants, Brioches—Decorative Breads—Presentation Pieces. Alain Couet, Éric Kayser, et al. John Wiley & Sons, 1997.

Understanding Baking, 3rd ed. Joseph Amendola and Nicole Rees. John Wiley & Sons, 2002.

The Village Baker. Joe Ortiz. Ten Speed Press, 1993.

FOOD HISTORY

Culture and Cuisine: A Journey Through the History of Food. Jean-François Revel. Helen R. Lane, trans. Da Capo, 1984.

Food and Drink Through the Ages, 2500 B.C. to 1937 A.D. Barbara Feret. Maggs Brothers, 1937.

Food in History. Reay Tannahill. Random House, 1995.

The Oxford Encyclopedia of Food and Drink in America, 2nd ed. Andrew F. Smith, ed. Oxford University Press, 2013.

SANITATION AND SAFETY

Applied Foodservice Sanitation Textbook, 4th ed. Educational Foundation of The National Restaurant Association, 1993.

Basic Food Sanitation. The Culinary Institute of America, 1993.

HACCP: Reference Book. Educational Foundation of The National Restaurant Association, 1993.

FOOD SCIENCE

CookWise: The Secrets of Cooking Revealed. Shirley Corriher. Morrow/Avon, 1997.

The Curious Cook. Harold McGee. Hungry Minds, 1992.

Food Science, 3rd ed. Helen Charley. Macmillan, 1994.

On Food and Cooking: The Science and Lore of the Kitchen, Completely Revised and Updated. Harold McGee. Scribner, 2004.

EQUIPMENT

Food Equipment Facts: A Handbook for the Foodservice Industry, revised and updated ed. Carl Scriven and James Stevens. Van Nostrand Reinhold, 1989.

The New Cook's Catalogue: The Definitive Guide to Cooking Equipment. Emily Aronson, Florence Fabricant, and Burt Wolf. Knopf, 2000.

The Professional Chef's Knife Kit, 2nd ed. The Culinary Institute of America. John Wiley & Sons, 1999.

GENERAL PRODUCT IDENTIFICATION AND MISE EN PLACE

The Book of Coffee and Tea, 2nd ed. Joel Schapira, David Schapira, and Karl Schapira. St. Martin's, 1996.

Cheese Primer. Steven Jenkins. Workman Publishers, 1996.

Cheeses of the World. U.S. Department of Agriculture. Peter Smith, 1986.

The Chef's Book of Formulas, Yields and Sizes, 3rd ed. Arno Schmidt. John Wiley & Sons, 2003.

The Chef's Companion: A Concise Dictionary of Culinary Terms, 2nd ed. Elizabeth Riely. John Wiley & Sons, 1996.

The Complete Book of Spices: A Practical Guide to Spices and Aromatic Seeds. Jill Norman. Viking, 1995.

A Concise Encyclopedia of Gastronomy. André Louis Simon. Overlook, 1983.

The Cook's Ingredients. Philip Dowell and Adrian Bailey. Reader's Digest Association, 1990.

Larousse Gastronomique. Jenifer Harvey Lang, ed. Crown, 1988.

The Master Dictionary of Food and Wine, 2nd ed. Joyce Rubash. John Wiley & Sons, 1996.

The New Food Lover's Companion, 5th ed. Sharon Tyler Herbst and Ron Herbst. Barron's, 2009.

The Oxford Companion to Food. Alan Davidson. Oxford University Press, 1999.

Spices, Salt and Aromatics in the English Kitchen. Elizabeth David. Penguin, 1972.

Uncommon Fruits & Vegetables: A Commonsense Guide. Elizabeth Schneider. William Morrow & Co., 1998.

Vegetables from Amaranth to Zucchini. Elizabeth Schneider. William Morrow & Co., 2001.

The World Encyclopedia of Food. Patrick L. Coyle. Facts on File, 1982.

GENERAL COOKERY

Escoffier: The Complete Guide to the Art of Modern Cookery. Auguste Escoffier. John Wiley & Sons, 1995.

Escoffier Cook Book. Auguste Escoffier. Crown, 1941.

Le Répertoire de la Cuisine. Louis Saulnier. Barron's, 1977.

Ma Gastronomie. Fernand Point. Frank Kulla and Patricia S. Kulla, trans. Lyceum, 1974.

The Professional Chef, 9th ed. The Culinary Institute of America. John Wiley & Sons, 2011.

PERIODICALS

American Cake Decorating
P.O. Box 15698, North Hollywood,
CA 91615-6867
Telephone: 877-467-1759
Fax: 651-653-4308

Art Culinaire
P.O. Box 238
Madison, NJ 07940
Telephone: 800-SO-TASTY
Fax: 973-993-8779

Bake
4800 Main Street, Suite 100, Kansas City, MO
64112-2513 Telephone: 816-756-1000
Fax: 816-756-0494

Bakers Journal
P.O. Box 530
105 Donly Drive South.
Simcoe, ON
Canada N3Y 4N5
Telephone: 888-599-2228
Fax: 519-429-3094

The Baking Sheet
King Arthur Flour Company
135 US Route 5 South
Norwich, VT 05055
Telephone: 800-827-6836

Baking & Snack
4800 Main Street, Suite 100
Kansas City, MO 64112
Telephone: 816-756-1000
Fax: 816-756-0494

Bon Appétit
4 Times Square, Fl 5
New York, NY 10036
Telephone: 800-765-9419

Cake Craft & Decoration
Cake Magazine Subscription Dept.
Tower House, Sovereign Park
Market Harborough LE169EF
United Kingdom
Telephone: 00 44 (0) 01858 439605
Fax: 00 44 (0) 01858 434958

Cakes & Sugarcraft
Squires Kitchen Magazine Publishing Ltd.
The Grange, Hones Yard
Farnham, Surrey GU9 8BB
United Kingdom
Telephone: 44 1252 260 260
Fax: 44 01252 714714

Chef Educator Today
233 North Michigan Avenue, Suite 1780
Chicago, IL 60601
Telephone: 312-849-2220
Fax: 312-849-2174

Chef Magazine
704 N. Wells Street, 2nd Floor
Chicago, IL 60654
Telephone: 312-849-2220

Cook's Illustrated
17 Station Street
Brookline, MA 02445
Telephone: 800-526-8442
Fax: 617-232-1572

Dessert Professional
12 West 37th Street, 9th Floor
New York, NY 10018
Telephone: 212-239-0855

Fancy Food & Culinary Products
704 N. Wells Street, 2nd Floor
Chicago, IL 60601
Telephone: 312-849-2220 Ext. 48
Fax: 312-849-2174

Fine Cooking
The Taunton Press, Inc.
63 South Main Street, P.O. Box 5506
Newtown, CT 06470-5506
Telephone: 203-426-8171

Food Arts
387 Park Avenue South
New York, NY 10016
Telephone: 212-684-4224

Food & Wine
1120 Avenue of the Americas
New York, NY 10036
Telephone: 800-333-6569

Modern Baking
Penton Media Inc.
330 North Wabash, Ste. 2300
Chicago, IL 60611

Nation's Restaurant News
1166 Avenue of the Americas, 10th Floor
New York, NY 10036
Telephone: 212-204-4200
Fax: 212-756-5215

Saveur
15 East 32nd Street, 12th Floor
New York, NY 10016
Telephone: 212-219-7400

Tea and Coffee
37-43 Crescent Street, 2nd Floor
Long Island City, NY 11101
Telephone: 212-391-2060
Fax: 212-827-0945

Wine Spectator
M. Shanken Communications, Inc.
387 Park Avenue South
New York, NY 10016
Telephone: 800-752-7799

Wine & Spirits
2 West 32nd Street, Suite 601
New York, NY 10001
Telephone: 212-695-4660

ORGANIZATIONS

American Bakers Association
1301 Eye Street NW, Suite 700W
Washington, DC 20005
Telephone: 202-789-0300

American Culinary Federation (ACF)
180 Center Place Way
St. Augustine, FL 32095
Telephone: 904-824-4468

American Institute of Baking
P.O. Box 3999
Manhattan, KS 66505
Telephone: 800-633-5137

Bread Bakers Guild of America
670 West Napa Street, Suite B
Sonoma, CA 95476
Telephone: 707-935-1468

Chefs Collaborative
89 South Street, Lower Level
Boston, MA 02111
Telephone: 617-236-5200

International Association of Culinary Professionals (IACP)
1221 Avenue of the Americas, 42nd Floor
New York, NY 10020
Telephone: 866-358-4951
Fax: 866-358-2524

International Council on Hotel/Restaurant and Institutional Education (CHRIE)
2810 North Parham Road, Suite 230
Richmond, VA 23294
Telephone: 804-346-4800

The James Beard Foundation
167 West 12th Street
New York, NY 10011
Telephone: 212-675-4984

Les Dames d'Escoffier (LDEI)
c/o AEC Management Resources
P.O. Box 4961
Louisville, KY 40204
Telephone: 502-456-1851
Fax: 502-456-1821

National Restaurant Association (NRA)
2055 L Street, NW, Suite 700
Washington, DC 20036
Telephone: 202-331-5900

Retail Bakers of America
15941 Harlem Avenue, #347
Tinley Park, IL 60477
Telephone: 800-638-0924

Women Chefs and Restaurateurs (WCR)
115 South Patrick Street, Suite 101
Alexandria, VA 22314
Telephone: 877-927-7787

Women's Foodservice Forum
6750 LBJ Freeway
Dallas, TX 75240
Telephone: 972-770-9100
Fax: 972-770-9150

Glossary

A

ACID A substance having a sour or sharp flavor. Foods generally referred to as acids include citrus juice, vinegar, and wine. A substance's degree of acidity is measured on the pH scale; acids have a pH of less than 7.

ACTIVE DRY YEAST A dehydrated form of yeast that needs to be hydrated in warm water (105°F/41°C) before use. It contains about one-tenth the moisture of compressed yeast.

ADULTERATED FOOD Food that has been contaminated to the point that it is considered unfit for human consumption.

AERATION Incorporation of air by beating or whipping the ingredients together.

AEROBIC BACTERIA Bacteria that require the presence of oxygen to function.

AGAR-AGAR A gelling agent derived from certain sea vegetables. It is eight times stronger than gelatin.

AGITATE To stir.

ALBUMEN Egg white or the protein found in egg white.

ALBUMIN A water-soluble protein found in egg whites.

ALKALI A substance that tests at higher than 7 on the pH scale. Baking soda is an example of an alkaline ingredient.

ALMOND PASTE A mass of ground almonds and sugar.

ALPHA CRYSTALS Large crystals in untempered chocolate. They are not uniform or stable, and must be melted at 83°F/28°C to properly temper chocolate.

AMYLOPECTIN A component of starch composed of irregularly branched molecules. With a high presence of amylopectin, a starch will act to increase viscosity to a greater extent without causing a gel to form.

AMYLOSE A component of starch composed of long, linear molecules. The higher the presence of amylose, the more the substance is prone to gel.

ANAEROBIC BACTERIA Bacteria that do not require oxygen to function.

ASH CONTENT The mineral content in flour.

AUTOLYSE A resting period for dough after mixing the flour and water. This rest allows the dough to fully hydrate and to relax the gluten.

B

BACTERIA Microscopic organisms. Some have beneficial properties; others can cause foodborne illnesses when foods they contaminate are ingested.

BAKING POWDER A chemical leavening agent composed of sodium bicarbonate, an acid, and a moisture absorber such as cornstarch. When moistened and exposed to heat, it releases carbon dioxide to leaven a batter or dough.

BAKING SODA A chemical leavening agent. Sodium bicarbonate is an alkali that when combined with an acid breaks down and releases carbon dioxide. This reaction causes the product to leaven as it is baked.

BATTER A pourable mixture of combined ingredients, high in liquefiers.

BAUMÉ (BÉ) The scale for expressing the specific gravity of a liquid or the method for measuring the density of sugar syrups. It is expressed in degrees.

BENCH REST In yeast dough production, the stage that allows the gluten in preshaped dough to relax before the final shaping. Also known as secondary fermentation.

BETA CRYSTALS The small, stable fat crystals that give chocolate its shine and snap.

BIGA Italian for an aged dough. A type of preferment containing 50 to 60 percent water and ⅓ to ½ percent instant yeast.

BITTERSWEET CHOCOLATE Chocolate containing a minimum of 35 percent chocolate liquor with varying amounts of sweeteners and cocoa butter.

BLANCH To remove the skins from nuts by scalding.

BLEND To fold or mix ingredients together.

BLIND BAKE To partially or completely bake an unfilled pastry crust.

BLOCK METHOD A method for tempering chocolate in which a block of tempered chocolate is added to melted chocolate and agitated until the proper temperature is reached, at which time the block is removed.

BLOOMING (1) The process of allowing gelatin to soften in cold water (gelatin sheets) or soak up cold water (granulated gelatin). (2) For chocolate, see Fat Bloom and Sugar Bloom.

BOULANGER French for "baker."

BRAN The tough outer layer of a grain kernel and the part highest in fiber.

BRIX SCALE A scale of measurement (decimal system) used to determine the density and concentration of sugar in a solution. It is expressed in degrees.

C

CARAMELIZATION The process of cooking sugar in the presence of heat. The temperature range in which sugar caramelizes is approximately 320° to 360°F/160° to 182°C. The browning of sugar enhances the flavor and appearance of food.

CHEMICAL LEAVENER An ingredient such as baking soda or baking powder used in a chemical reaction to produce carbon dioxide gas to leaven baked goods.

CHOCOLATE LIQUOR The product made by grinding coco beans without adding sugar or cocoa butter.

COATING CHOCOLATE Chocolate made with fats other than cocoa butter, which does not require tempering to use.

COCOA BUTTER The fat extracted from the cacao bean.

COMMON MERINGUE A mixture of egg whites and sugar, beaten until it reaches soft, medium, or stiff peaks. Also called French meringue.

COMPOUND CHOCOLATE See Coating Chocolate.

COMPRESSED FRESH YEAST Moist yeast that must be refrigerated because it is extremely perishable.

COUVERTURE A type of chocolate specifically designed for coating or incorporation with other ingredients. Extra cocoa butter is added to increase its smoothness, flexibility, and gloss after tempering. The cocoa butter content of couverture should be at least 32 percent.

CREAMING Blending fats and sugar together to incorporate air.

CROSS CONTAMINATION The transference of disease-causing elements from one source to another through physical contact.

CRUMB The interior texture of baked goods.

CRYSTALLIZATION A process that occurs when sugar is deposited from a solution.

D

DENATURE To alter the original form of a substance. In proteins, exposure to heat or acid will denature or "cook" the protein.

DEXTROSE A simple sugar made by the action of acids or enzymes on starch. Also known as corn sugar.

DISACCHARIDE A double or complex sugar. When fructose and dextrose are bonded together, this is called sucrose, or table sugar. Maltose is another example of a disaccharide.

DISSOLVING Heating bloomed gelatin until it is transparent and liquid.

DOCK To pierce dough lightly with a fork or dough docker (which resembles a spiked paint roller) to allow steam to escape during baking. This helps the dough to remain flat and even.

DOCTOR A substance that is added to a sugar solution to help prevent crystallization. Common doctors are acids and glucose.

DOUGH A mixture of ingredients high in stabilizers and often stiff enough to cut into shapes.

DUTCH-PROCESS COCOA Cocoa made by adding alkali to nibs or to cocoa powder to develop certain flavors, reduce acidity, and make it more soluble.

E

EMULSION The suspension of two ingredients that do not usually mix. Butter is an emulsion of water in fat.

ENDOSPERM The inside portion of a grain, usually the largest portion, composed primarily of starch and protein.

ENRICHED DOUGH Dough that is enriched includes ingredients that add fat or vitamins. Examples of these ingredients are sugar, eggs, milk, and fats.

F

FACULTATIVE BACTERIA Bacteria that can survive both with and without oxygen.

FAT BLOOM The white cast and soft texture of chocolate that is the result of poor tempering or exposure of the chocolate to high temperatures. Although fat bloom is visually and texturally unappealing, the chocolate is safe to eat.

FERMENTATION A process that happens in any dough containing yeast. As the yeast eats the sugars present in the dough, carbon dioxide is released, which causes the dough to expand. It begins as soon as the ingredients are mixed together and continues until the dough reaches an internal temperature of 138°F/59°C during baking. Fermentation alters the flavor and appearance of the final product.

FOAMING The process of beating eggs (whole eggs, yolks, or whites) to incorporate air until they form a light, fluffy substance with many small air bubbles.

FOLDING (1) Incorporating a lighter mixture into a heavier one. (2) The process of bending a dough over itself during the bulk fermentation stage to redistribute the available food supply for the yeast, equalize the temperature of the dough, expel gases, and further develop the gluten in the dough.

FONDANT Sugar, cooked with corn syrup, that is induced to crystallize by constant agitation, in order to produce the finest possible crystalline structure. Fondant is used as centers in chocolate production, and as a glaze in pastries.

FOOD-BORNE ILLNESS An illness in humans caused by the consumption of an adulterated food product. In order for a food-borne illness to be considered official, it must involve two or more people who have eaten the same food, and it must be confirmed by health officials.

FORMULA A recipe in which measurements for each ingredient are given as percentages of the weight for the main ingredient.

FRUCTOSE A monosaccharide that occurs naturally in fruits and honey. Also known as fruit sugar or levulose.

G

GANACHE An emulsion of chocolate and cream. Ganache may also be made with butter or other liquids in place of the cream.

GÂTEAU French for "cake."

GEL (Noun) A colloidal dispersion of solids that trap water. (Verb) To set to a firm or semifirm state by a colloidal dispersion of solids that trap water.

GELATIN A protein derived from the skins and tendons of animals. Gelatin is used as a binder and stabilizer. It is available in granulated and sheet forms.

GELATINIZATION The process in which heated starch granules that are suspended in liquid begin to absorb liquid and swell in size.

GERM The embryo of a cereal grain that is usually separated from the endosperm during milling because it contains oils that accelerate the spoilage of flours and meals.

GLIADIN A protein found in wheat flour. The part of gluten that gives it extensibility and viscosity.

GLUCOSE (1) A monosaccharide that occurs naturally in fruits, some vegetables, and honey. Also known as dextrose. (2) A food additive used in confections.

GLUTEN The protein component in wheat flour that builds structure and strength in baked goods. It is developed when the proteins glutenin and gliadin are moistened and agitated (kneaded). It provides the characteristic elasticity and extensibility of dough.

GLUTENIN A protein found in wheat flour. The part of gluten that gives it strength and elasticity.

GRAIN (Verb) To crystallize. Fondant is agitated until it grains. (Noun) A seed or fruit of a cereal grass.

GUM ARABIC A water-soluble vegetable substance obtained from the stems and branches of various species of acacia trees. It is used to thicken, emulsify, and stabilize foods such as candy and ice cream.

GUM PASTE A white modeling substance made from gum tragacanth or gelatin, water, glucose, and sugar.

GUM TRAGACANTH A substance obtained from the Asian shrub *Astragalus gummifer* that is used to thicken, emulsify, and stabilize foods.

H

HOMOGENIZE To mix ingredients together so their particles are reduced to a uniform size and are distributed evenly throughout the mixture.

HUMECTANT A type of food additive used to promote moisture retention.

HYDRATE To combine ingredients with water.

HYDRATION PERCENTAGE The amount of liquid absorbed in a formula.

HYDROGENATION The process in which hydrogen atoms are added to an unsaturated fat molecule, making it partially or completely saturated at room temperature. Vegetable oils are hydrogenated to create shortening.

HYDROLYZE To chemically split one compound into other compounds by taking up the elements of water. Cornstarch is hydrolyzed to produce corn syrup.

HYGROSCOPIC Absorbing moisture from the air. Sugar and salt are both hygroscopic ingredients.

I

INFECTION Contamination by disease-causing agents, such as bacteria, consumed via foods.

INFUSE To flavor by allowing an aromatic to steep in the substance to be flavored. Infusions may be made either hot or cold.

INTOXICATION Poisoning. A state of being tainted with toxins, particularly those produced by microorganisms that have infected food.

INVERT SUGAR Sucrose that has been broken down (inverted) into a mix of dextrose (glucose) and levulose (fructose). It is sweeter and more soluble than sucrose, and does not crystallize as easily.

ITALIAN MERINGUE A mixture of whipped egg whites and hot sugar syrup (140°F/60°C), whipped further until shiny, fluffy, and cool.

K

KUCHEN German for "cake" or "pastry."

L

LACTIC ACID An acid produced when lactose is fermented. It occurs naturally when milk is soured.

LACTOSE The simple sugar found in milk.

LAMINATION The technique of creating alternating layers of fat and dough through a process of repeated rolling and folding.

LEAN DOUGH A yeast dough that does not contain fats or sugar.

LEAVENING Raising or lightening by air, steam, or gas (carbon dioxide). In baking, leavening occurs with yeast (organic), baking powder or baking soda (chemical), and steam (physical/mechanical).

LECITHIN A naturally occurring emulsifier found in egg yolks and legumes.

LEVULOSE A simple sugar found in honey and fruits. It is also known as fructose or fruit sugar.

LIQUEFIER An ingredient that helps to loosen a dough or batter and make it more fluid. Sugar, fats, and water or milk are examples of liquefiers in baking.

M

MAILLARD REACTION A complex browning reaction that results in the particular flavor and color of foods that do not contain much sugar, such as bread. The reaction, which involves carbohydrates and amino acids, is named after the French scientist who first discovered it.

MARZIPAN A pliable dough of almonds and sugar. Marzipan may also be flavored by the addition of nuts other than almonds.

MASKING Covering a cake with icing, frosting, or glaze.

MERINGUE A white, frothy mass of beaten egg whites and sugar. Versions are common (or French) meringue, Italian meringue, and Swiss meringue.

MIGNARDISES An assortment of small, two-bite-size pastries.

MILK CHOCOLATE Sweet chocolate to which whole or skim milk powder has been added. It must contain at least 10 percent chocolate liquor by weight, although premium brands contain more.

MILLE-FEUILLE French for "thousand leaves." This pastry, made from puff pastry dough, is known in America as a napoleon.

MISE EN PLACE French for "put in place." The preparation and assembly of ingredients, pans, utensils, and plates or serving pieces needed for a particular dish or service period.

MIXING The combination of ingredients.

MONOSACCHARIDE A single or simple sugar and the basic building block of sugars and starches. Fructose, glucose, levulose, and dextrose are examples of monosaccharides.

N

NAPPÉ The consistency of a liquid that will coat or cover the back of a spoon.

O

ORGANIC LEAVENER Yeast. A living organism operates by fermenting sugar to produce carbon dioxide gas, causing the batter or dough to rise.

OVEN SPRING The rapid initial rise of yeast doughs when placed in a hot oven. Heat accelerates the growth of the yeast, which produces more carbon dioxide gas, and also causes this gas to expand. This continues until the dough reaches a temperature of 140°F/60°C.

OVERRUN The increase in volume of ice cream caused by the incorporation of air during the freezing process.

P

PAIN French for "bread."

PAR-BAKE To start and then interrupt the baking process to finish it at a later time.

PASTILLAGE See Gum Paste.

PÂTE À GLACER Coating chocolate. Available as brune, blonde (milk), or ivoire.

PATHOGEN A disease-causing microorganism.

PATISSIER French for "pastry chef."

PECTIN A gelling agent or thickener found in fruits, particularly in apples, quince, and the skins of citrus fruits.

PETIT FOUR A small bite-size cake, pastry, cookie, or confection. The term is French for "small oven."

pH SCALE A scale with values from 0 to 14 representing degrees of acidity. A measurement of 7 is neutral, 0 is most acidic, and 14 is most alkaline. Chemically, pH measures the concentration and activity of the element hydrogen.

PHYSICAL LEAVENING A process that occurs when air and/or moisture that is trapped during the mixing process expands as it is heated. This can occur through foaming, creaming, or lamination. Also known as mechanical leavening.

POLYSACCHARIDE A complex carbohydrate such as a starch that consists of long chains of saccharides, amylose, and amylopectin.

POOLISH A semiliquid starter dough with equal parts (by weight) of flour and water blended with yeast and allowed to ferment for 3 to 15 hours.

PRE-FERMENT A piece of dough saved from the previous day's production to be used in the following day's dough.

PRESHAPING The gentle first shaping of dough. Also known as rounding.

PROOF To allow yeast dough to rise.

PROTEASES Several enzymes that break down the collagen in gelatin and do not allow it to set or gel. Such a destructive enzyme is found in kiwi, pineapple, papaya, and other fruits.

R

RATIO A general formula of ingredients that can be varied.

RECIPE A specific formula of ingredients and amounts.

RETROGRADATION The process in which starches high in amylose revert back to their insoluble form after they are gelatinized and then undergo freezing, refrigeration, or aging. This reaction causes changes in texture and appearance.

S

SACCHARIDE A sugar molecule.

SANITATION The preparation and distribution of food in a clean environment by healthy food workers.

SANITIZE To kill pathogenic organisms chemically or by moist heat.

SCALE (1) To measure ingredients by weight. (2) To multiply or divide the quantities in a formula to change the yield. (3) To portion batter or dough according to weight or size.

SCORE To make incisions into dough that allow steam to escape and the crust to expand. Also known as slashing or docking.

SECONDARY FERMENTATION See Bench Rest.

SEED (1) In chocolate tempering, a portion of tempered chocolate added to melted chocolate to begin the formation of beta crystals. (2) Anything that acts as a surface to which sugar will adhere and crystallize.

SEED METHOD A method of tempering chocolate. Chopped tempered chocolate (seeds) are added to the melted chocolate and agitated until the desired temperature is reached.

SEMISWEET CHOCOLATE Chocolate that contains between 15 and 35 percent chocolate liquor. In addition to chocolate liquor, it contains added cocoa butter, sugar, vanilla or vanillin, and often lecithin.

SHORTENING AGENTS Fats and oils. This term is derived from fat's ability to split the long, elastic gluten strands that can toughen dough and batters. This tenderizing effect renders the strands more susceptible to breaking or "shortening," resulting in a more tender and less dense crumb.

STABILIZER An ingredient that helps to develop the solid structure or "framework" of a finished product. Flour and eggs act as stabilizers in baking.

STARTER A mixture of flour, liquid, and commercial or wild yeast that is allowed to ferment. The starter must be "fed" with flour and water to keep it alive and active.

STEEP To allow to infuse.

SUCROSE Table sugar. A disaccharide extracted from sugarcane or sugar beets; consists of glucose and fructose joined together in the molecule.

SUGAR BLOOM The result of damp storage conditions for milk or dark chocolate. When the moisture evaporates, a white crust of sugar crystals is left behind. Like fat bloom, it is visually and texturally unappealing, but the chocolate is still safe to eat.

SWISS MERINGUE A mixture of egg whites and sugar heated over simmering water until it reaches 140°F/60°C; it is then whipped until it reaches the desired peak and is cool.

T

TABLING METHOD A method of tempering chocolate. A percentage of the chocolate is poured onto a marble slab and agitated until it begins to set. It is then added back to the remaining melted chocolate and stirred until it reaches the proper working temperature.

TART A shallow, usually open-faced pastry shell with filling.

TARTLET A small, single-serving tart.

TEMPER (1) To melt, agitate, and cool chocolate to ensure that it retains its smooth gloss, crisp “snap” feel, and creamy texture. (2) To heat gently and gradually, as in the process of incorporating hot liquid into a liaison to gradually raise its temperature.

TEXTURE The interior grain or structure of a baked product as shown by a cut surface; the feeling of a substance under the fingers.

TORTE German for “cake.” It can be multilayered or a single, dense layer.

TOXIN A naturally occurring poison, particularly those produced by the metabolic activity of living organisms such as bacteria.

TRUFFLE A ganache center that is usually coated with chocolate. Truffles are round and are named after the fungus that they resemble.

U

UNSWEETENED CHOCOLATE Chocolate liquor without added sugar or flavorings.

V

VIRUS A type of pathogenic microorganism that can be transmitted in food. Viruses cause such illnesses as measles, chicken pox, infectious hepatitis, and colds.

VISCOSITY The quantity that describes a fluid’s resistance to flow.

W

WHIP To beat an item, such as cream or egg whites, to incorporate air.

WHITE CHOCOLATE True white chocolate, such as that found in Europe, is made from cocoa butter, milk, sugar, and flavorings, and it contains no chocolate liquor. In the United States, white confectionery coating, made with vegetable fat instead of cocoa butter, is more readily available.

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